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ORIGINAL ARTICLES.

LAW OF REFRACTION—CHANGE FOLLOWING INCREASE OR DECREASE OF BODY-WEIGHT.[1]

BY GEORGE M. GOULD, M.D.,
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IN starvation, ninety-seven per cent. of the fat of the body is lost before death, and of the remaining three per cent. the orbits always retain some and a larger amount proportionately than other localities. This seems to indicate that the cushion of fat blanketing the eyeball posteriorly is of great importance to the function of vision, and if so, it would appear natural that great increase or decrease of body-weight, consisting mostly in gain or loss of fat, might lead to changes of fat-deposits in the orbit, with consequent variations in pressure upon the eyeball. If to this consideration we add the noteworthy fact that a variation so small as that of one millimeter in the anteroposterior diameter of the eyeball produces the huge ametropic change of three diopters, we recognize how slight a difference in orbital pressure is required to account for a marked variation of refractive error. It is easily demonstrable that a difference of one or two diopters may be produced simply by increase or decrease of posterior pressure, without posterior staphyloma or in any way altering the total capacity of the eyeball, but simply by altering its shape. The equatorial diameter would be lengthened by a slight polar shortening, and *vice-versa*. The ametropia of albinotic eyes shows this fact produced by another mechanism.

These purely *a priori* thoughts had been in mind for years, and I had had a number of patients in whom changes of refraction were suspected to be coincident or consequent upon changes in body-weight, but there were always some elements of doubt, due to the fact that as the patients had been previously examined by other oculists, I might reasonably suspect they were errors due to my own carelessness, etc. Last spring, however, several cases came nearly together, and a study of the case-records appeared to warrant a tentative theory, or working hypothesis, of sufficient plausibility to justify making the suggestion public. I remember to have been often perplexed before the present suggestion occurred to me to account for decreases in myopia. I, by no means, claim any great definiteness of result or any precise formulation of a law, except in general terms, and liable to modifications and exceptions. I myself have had one or two cases showing that, if founded upon fact, the rule is not invariable. It certainly could not be so, because many complicating conditions and circumstances must occur and must be taken into account. With all due allowances and justifiable cautions it seems to me that the thought is a reasonable one, and is given in order to be proved or disproved by the future observations of many. If it is true it will help to explain a number of perplexing cases, and put us and our patients on guard. I am sure the common belief that myopia does not lessen is frequently disproved by facts. It has for years been my custom to expect refraction-changes consequent upon severe general illness, and it may be that these are, at least in part, mere corollaries of the theory under consideration.

In brief my suggestion is as follows: Great increase of body-weight may cause shortening of the anteroposterior diameter of the eyeball or alterations of curvature (increase of hyperopia, decrease of myopia, or similar changes of astigmatism); and on the other hand, great decrease of body-weight may be coincident with lengthening of the eyeball (decrease of hyperopia, increase of myopia, or like changes of astigmatism).

A few cases[1] clinically illustrating this law, if it may be so called, are as follows:

Case 3125.—The patient was a man of twenty-five, and was first examined March 11, 1894, with the following finding:

R.—Cyl. 0.25 ax. 20°; L.—Sph. 5.50—Cyl. 0.50 ax. 160°. On March 22, 1897, I again tested the error, finding: R.+Cyl. 0.37 ax. 105°; L.—Sph. 4.75=Cyl. 0.25 ax. 160°.

Since the first examination he had gained about thirty pounds in weight, and the refraction-changes were in the right eye 0.62 D., and in the left 1.25 D. The case seems noteworthy because the change was twice as great in the highly myopic eye.

Case 4034.—The patient was a man of thirty-two, and was examined in 1889 by an oculist whose record I can trust, and who prescribed:

R.—Sph. 4.00—Cyl. 1.00 ax. 165°; L.—Sph. 1.25—Cyl. 1.00 ax. 90°. In 1895 I found: R.—Sph. 3.50=Cyl. 1.00 ax. 160°; L.—Cyl. 2.50 ax.

[1] Read at the Thirty-third Annual Meeting of the American Ophthalmological Society, held at Washington, D. C., May 4, 5, and 6, 1897.

[1] All, of course, tested under mydriasis.

90°. On March 24, 1896, I found: R.—Sph. 2.75 —Cyl. 1.25 ax. 180°; L.—Cyl. 2.25 ax. 90°.

During these seven years the patient had steadily gained in weight a total of about forty pounds. In this case it was the highly myopic eye that had decreased in myopia a total of at least one diopter, the left remaining comparatively unchanged.

Case 1493.—A woman of twenty-five was refracted in 1891, and the following error was found:

R.—Sph. 5.50=Cyl. 1.00 ax. 5°; L.—Sph. 5.50 —Cyl. 1.00 ax. 5°. In 1887 the error was found to be: R.—Sph. 4.75—Cyl. 1.12 ax. 5°; L.—Sph. 4.75—Cyl. 1.37 ax. 5°.

In the meantime she had gained about thirty pounds in weight, the coincident loss of myopia being about 0.50 D.

Case 4280.—Miss. B., eighteen years of age, was refracted April 18, 1896, and found to have the following error of refraction:

R.—Sph. 0.24+Cyl. 0.50 ax. 75°; L.—Sph. 0.25+Cyl. 0.62 ax. 105°. On April 24, 1897, the refraction was found to be as follows: R.+Sph. 0.50+Cyl. 0.50 ax. 75°; L.+Sph. 0.25+Cyl. 0.75 ax. 90°.

During the year she had gained very much in health and flesh, but just how much the increase in weight was it is impossible to say.

Case 4074.—A boy of thirteen was first refracted in November, 1895. At this time he was of normal height, but very fat, weighing about 150 pounds. On February 19, 1897, he returned, complaining that he could not see the blackboard and other distant objects as plainly as formerly. Upon inquiry, the mother said that these complaints had been growing more frequent and more pronounced during the past two or three months, during which hygiene and dietary measures had been enforced to reduce his flesh. The treatment had been so successful that during this time he had lost about fifty pounds in body-weight, and in girth the waist had fallen from 39½ inches to 34½ inches. At the same time his height had decidely increased, the lessening of fat having been followed by a rapid gain in body-length. (There is considerable indefiniteness as to the weight and height, but I secured from his tailor the waistband measurements.)

His refraction in 1895 was:

R. and L. the same+Sph. 0.25+Cyl. 0.75 ax. 90°. Fifteen months later it was: R.—Sph. 0.25 —Cyl. 0.75 ax. 180°; L.—Sph. 0.25—Cyl. 0.87 ax. 180°.

Thus there was a total change of refraction of fully two diopters accurately synchronous, with the loss of flesh. Up to the time of "going to press" there has been no noteworthy change in refraction, though I have re-examined the eyes several times.

I could cite other cases apparently of the same kind, but these seem sufficiently illustrative of the theory suggested to stimulate the observation of others. It is also possible that changes in muscle-balance may sometimes depend upon the amount of fat in the orbits and lids. An indirect but striking proof of the theory set forth consists in the fact of the production of high degrees of compound hyperopic astigmatism in albinos due to the continuous lid-pressure. The albino seeks to shut out light by the lids, and the pressure lessens the anteroposterior diameter of the cornea and shortens the vertical meridian to an enormous degree.

EXCISION OF THE HIP.[1]

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To determine the exact value of any particular method of treatment in chronic disease of the hip-joint is a difficult matter. Each case varies, and statistics and the conclusions drawn from a series of cases are often misleading. I will not attempt to gather together a vast number of figures, therefore, or to quote from other authorities, but simply to report the results of the operation of excision in the patients on whom it has been performed from 1886 to 1896, inclusive, in the Hospital for Ruptured and Crippled, New York. This work has been made possible for me by the kind assistance of Dr. W. J. Reynolds, late House Surgeon of the Hospital, who made an abstract of the histories as given in the record books of the institution, to which has been added the final results in all cases, when these could be traced. Personally, I have had the opportunity of witnessing all but two or three of the operations, and of making the final notes.

Following the plan of most American surgeons, the large majority of patients with hip disease at this hospital have been treated by means of the various forms of hip-splints in common use to-day. An endeavor is made to treat each case strictly on its merits, and the treatment is by no means a matter of mere routine. The patients first make application to the Out-Patient Department, and if the disease is just beginning, a plaster-of-Paris spica bandage is applied, which, in mild cases, is kept on until a splint is made ready, or, if the child needs hospital care, until it is admitted to the wards. If the symptoms are acute, the child is put to bed and a weight and pulley applied, with the object of overcoming the spasm and the deformity. When much deformity exists, hip-splints are not applied until this has been overcome. The patients applying for treatment all come from the poorer walks of life, and the home care in most cases is very inadequate. Many lack proper food, the hygienic surroundings are bad, and the necessary attention for the proper adjustment

[1] Read before the American Orthopedic Association at Washington, D. C., May 6, 1897.

of the brace and its care are wanting and we cannot expect as good results as when the patient can be properly cared for at all times. In many instances when first seen the disease was far advanced and abscesses, sinuses, and marked general tuberculosis, with or without septicemia, were present. The general vitality was low, and in some an enlarged liver and spleen indicated that amyloid changes had occurred.

From 1888 to 1896, 2295 patients with hip disease applied for treatment at the hospital, and during the same time 121 excisions were performed on 119 patients. This clearly shows what a small proportion were subjected to the operation, and explains the position that has been given to excision in the treatment of hip-joint disease in this institution. In no case was excision practised except with the view of saving life. In many instances it was a *dernier ressort;* in others, it was to stop excessive drain from prolonged suppuration, to check amyloid changes, or to clean out and drain septic abscesses. Excision was never practised in the first stage of the disease, save in one case of double hip disease, and all but six cases were complicated by an abscess or sinus. The operation was resorted to only when other methods of treatment had apparently failed, and when it was believed that if some operation were not performed death inevitably would soon result. In some patients the previous treatment had been careful, thorough, and scientific, but the progress of the disease was not checked and excision was resorted to, while in others neglect and poor treatment rendered the operation necessary. From the fact previously mentioned, that these patients in many instances did not have proper home care, no inference can be drawn as to the value of the different forms of splints used during the previous treatment, or as to the value of aspiration of abscesses or injection of iodoform and oil as tending to render an excision necessary. In fact, quite a number of the patients were transferred from the Out-Patient Department to the hospital wards because their parents systematically neglected them and much of the benefit from the brace treatment was entirely lost, and no doubt in some positive harm was done.

In considering the ages of the patients, it must be stated that the hospital treats in the in-patient department only those children who are between the ages of four and fourteen, and a very few cases over the hospital age-limit were referred to other institutions for operation. The total number of patients operated upon, including those referred to other institutions, does not exceed five per cent. of the total number of cases seen, and this represents the most severe examples.

Abscesses or sinuses, much more often septic than non-septic, were present in 113 patients out of 119, and this emphasizes the importance of proper treatment of this complication. This subject has been thoroughly discussed of late years, and the fact clearly established that a cold abscess should be opened, thoroughly curetted, and properly drained whenever it becomes septic. Had this been done in every instance, the number of excisions would have been smaller. In the large majority, the patients were suffering from sepsis before the operation was performed, and naturally this also affected the ultimate result.

From a study of these cases the conclusion is inevitable that in a great many the fatal result was due more to sepsis than to tuberculosis. In many cases, the osteomyelitis present, and the deep burrowing of the abscesses, rendered perfect drainage almost impossible either before or after the operation. The number of cases of hip disease where abscesses were present but not infected, or when infected were promptly opened and properly drained, proved also that sepsis is responsible for the result. Much more than five per cent. of all patients with hip disease develop abscesses and yet make a good recovery and never suffer from general sepsis.

In ten per cent. of the cases there was marked osteomyelitis present, and in these the difficulty of perfect drainage is always great. In several instances counter openings were made lower down in the shaft of the bone and gauze drains passed into the medullary canal, but when this complication exists, and the patient has in addition much bony destruction of the joins from tuberculosis, I believe amputation at the hip-joint will give better results than excision; certainly the results in the cases the writer has had the opportunity to observe have been anything but encouraging. The shock accompanying an amputation will undoubtedly be greater than that resulting from an excision, but the cause of the sepsis will at once be done away with, and if the shock is not too serious there will be some chance of the patient's recovery.

The duration of the hip disease at the time of the operation in about seventy per cent. of the cases was from one to three years, and as the patients were all in the third stage of the disease the figures are such as we would expect. Careful inquiry was made in every instance to determine if possible the cause of the disease, and in six per cent. it was ascribed to a fall, a very small percentage, if we are to believe some authorities. In two instances children were subjected to osteotomy for the relief of the flexion deformity after hip-joint disease, and sepsis occurred and excision was subsequently done.

The acetabulum was involved in about ten per cent. of the cases and it was usually impossible to determine before the operation whether or not this bone was diseased. In but one case was there found complete bony ankylosis of the femur to the pelvis. In one case the head of the femur was found loose as a sequestrum in the joint, and in several others portions of loose bone were present, but in the majority more or less complete destruction of the head of the femur had taken place. Two children were subjected to excision of both hips, in one case both operations being performed at one sitting, and in the other after an interval of about a year. Both subsequently died.

The total number of operations was 121, the total number of patients, as has been said, being 119, 78 were males, and 41 females. The right hip was removed in 69 operations, the left in 52. In 24 the anterior incision was made use of and in 97 the posterior. In cases of the kind here reported, no typical operation can be performed. The incision is made so as to open the abscess or follow up a sinus, but our preference is for the posterior incision. The operations were performed under ether anesthesia except in three cases, when nitrous oxid gas was used. The plan was always to operate rapidly, remove the diseased tissues as thoroughly as possible, and to stop all hemorrhage promptly either by ligature or pressure. The wound was thoroughly packed with iodoform gauze, and in the earlier cases a plaster-of-Paris spica bandage was applied to keep the limb in proper position. The latter procedure has not been carried out for the last four years as it was feared that the wet plaster enveloping the child might have been responsible for some of the deaths from shock, and it also delayed getting the patient back to bed as it was necessary for the plaster to set before removing the child from the operating-table. A long side splint is now used instead of the plaster, and a weight and pulley is applied to the limb to make proper traction. These can be applied after the child has been returned to bed.

The subsequent care of the wound consists in dressing it every second or third day in order to secure proper drainage, to prevent absorption of pus, if it is septic, and to promote healing by granulation from the bottom. The attempts to sew up the wound in these cases have proved failures and no matter how carefully the operation is performed it is almost impossible to obtain primary union when marked sepsis is present. The incision wounds are sometimes very slow in closing and sinuses may persist even for years. The average time for the closing of the wound in the cases that have done well has not been less than six months. Various solutions have been used to encourage healing, but washing with peroxid of hydrogen and the application of balsam of Peru and olive oil have given the best results. Occasionally sinuses have been curetted and stimulating applications have been made to them.

Of the 121 excisions it has been possible to trace but 101. Of the 99 patients traced, 52 are known to be dead; and these include the 2 cases in which both hips were removed. Of these 52 deaths, 51 were attributable to the diseased condition present, and one to accidental drowning. In the latter case the hip had recovered and was in good condition at the time of death. The cause of death in 28 was exhaustion; in 9, shock, and in 9 tuberculous meningitis. The other causes were uremia, edema of the lungs, tuberculous peritonitis 1 each, and heart failure, 2. Exhaustion was responsible for over fifty per cent. of the fatalities, and this includes all cases of amyloid degeneration, besides those cases in which general tuberculosis developed. Long-continued suppuration and the weakening effects of sepsis helped to make this the most frequent cause. Of the cases of meningitis, in only one instance could the operation be held responsible for its development. In this patient the symptoms appeared twelve days after the excision, while in the others the period was much later, and the operation probably neither delayed nor hastened the fatal termination. These figures show that meningitis was the cause of death in ten per cent. of the cases traced.

Of the fatal results, 37 occurred within six months after the operation, and 10 more within one year. In 9 cases of shock death occurred within 48 hours. That more patients did not die from shock is due, I believe, to the rapidity of operating, to the small amount of anesthetic used, and to the subsequent faithful and efficient care of the house staff and nurses. The mortality rate in this series of cases is thus seen to be about fifty-two per cent., and when the condition of many of those operated upon is considered it is evident that no other result could be expected.

Of the patients traced, 47 are living; and of this number 26 are cured of the disease with varying amounts of shortening and with varying degrees of deformity. The latter in most cases is slight. The shortening depends upon the amount of bone originally removed, and upon the time that has elapsed since the operation. The fact that the upper epiphysis of the femur is removed, and that its presence is responsible for part of the growth of the limb easily accounts for the fact that in 3 cases seen six years after operation, the average shortening was 3.16 inches. In 4 patients seen five years after

operation it was 2.68 inches, while in those observed during two years or less it was 1 inch. The shortening is not of great consequence, providing the limb is straight and in good position. When much flexion deformity is present, we usually also find more or less adduction, and this is a serious matter. In 10 patients the limb was extended to 180°; in 6, to 170° or over; in 7, to 165°, and in 6, to 160°. These 29 may be said to have the limb in a position that makes locomotion easy and are cured without flexion deformity. All beyond this have flexion and some lordosis as a result. The amount of motion in the joint varies; in 1 it is 130°, in 3 the limb can be brought to a right angle (90° of motion), 6 have from 30 to 40°, 8 have from 5 to 30°, and in 26 there is no motion. It was not possible to measure the degree of motion or the angle of greatest extension in every case, hence these data are missing in a few cases.

Of the 47 patients known to be living, we have found 26 cured. Of the remaining 21, fully one-half are in bad condition and will die from exhaustion if not from other causes, as the result of long-continued suppuration. Of this number, in 2 the sinuses are still discharging six years after the operation, in 1 after five years, in 2 after four years, in 1 after three years, and in 2 after two years. In the remaining cases, too little time has elapsed since the excision was done to allow of a final report being made. The results may be stated as 26 cures after 101 operations, and we have reason to believe that of the patients not traced many are living. To save only one patient out of every four operated upon, while not brilliant, shows that some good has been done, for these were all desperate cases, and we believe the patients would have died had the operation not been performed.

Whether amputation will save more lives in the same number of cases remains to be seen. Excision, to prove of benefit in a large percentage of cases, must be done early, and then the question is, Are we justified in operating early, knowing the good results to be obtained from mechanical treatment? The majority will answer in the negative, or in favor of the treatment by means of the various hip-splints now in use; and as our knowledge in their application increases and the general practitioner learns to interpret the early symptoms more promptly, so will the necessity for excision diminish.

Results in 121 excisions of the hip, performed on 119 patients at the Hospital for Ruptured and Crippled, New York, 1888 to 1896 inclusive: Of this number, Dr. V. P. Gibney performed 100, Dr. W. R. Townsend performed 15, Dr. W. J. Reynolds performed 3, Dr. Royal Whitman performed 1, Dr. W. B. Thompson performed 1, Dr. W. R. Martin performed 1.

A summary of the cases here reported is as follows: Total number of patients operated upon, 119; total number of excisions of the hip-joint, 121—males, 78; females, 41. Right hip, 69; Left hip, 52. Due to a fall, 20. Cause unknown, 101. Anterior incision, 24; posterior incision, 97.

Ages at time of operation: Three years, 1; four years, 12; five years, 13; six years, 17; seven years, 15; eight years, 16; nine years, 14; ten years, 13; eleven years, 8; twelve years, 6; thirteen years, 2; fourteen years, 3; fifteen years, 1.

Acetabulum involved in 18; of this number, 10 are living, 6 are dead, and 2 cannot be traced. Marked osteomyelitis present in 10. Duration of disease before operation: In 1 case, two weeks; in 1 case, three months; in 2 cases, six months; in 3 cases, eight months; in 41 cases, one year; in 37 cases, two years; in 13 cases, three years; in 6 cases, four years; in 5 cases, five years; in 2 cases, six years; in 3 cases, seven years, and in 7 cases the time is unknown.

Abscesses or sinuses were present in 113 cases, no abscess in 8, and double hip disease in 3. Both hips were excised in 2 cases; hip and spinal disease in 5, hip and knee disease in 2, hip and tarsal disease in 2. The hip, pubes, and ilium were involved in 1 case, the hips and pubes in 1, and the hip, sacrum, and coccyx in 1. Disease developed after Gant's operation of osteotomy in 2 cases, the head of the femur was loose in the acetabulum in 1, and syphilis was present in 1.

Cases operated upon in 1888, 3; in 1889, 1; in 1890, 6; in 1891, 22 (cured, 3); in 1892, 16 (cured, 4); in 1893, 13 (cured, 3); in 1894, 15 (cured, 0); in 1895, 17 (cured, 7); in 1896, 28 (cured, 9). Cases noted six years after operation have the following shortening: Four inches in 1 case, 3 inches in 1, and 2½ in 1; average, $3\frac{1}{16}$ inches.

Five years after operation: four inches in 1 case, 3 in 1, 2½ in 1, and 1¼ in 1. Average, 2.68 inches.

Four years after operation: 2¾ inches in 1 case, 2½ in 1, 1½ in 2, and 1¼ in 1. Average, 1.6 inches.

Three years after operation: 1½ inches in 1 case, 1 in 1, ¾ in 2. Average, 1.08 inches.

Sinuses exist after operation for six years in 2 cases, 5 in 1, 4 in 2, 3 in 1, 2 in 2, and 1 in 12. Deaths, 52. From exhaustion, 28; shock, 9.

Tuberculous meningitis, 9. Developed twelve days after operation in 1 case; 1½ months in 1, 2 in 2, 2½ in 1, 3 in 1, 5 in 2, and 14 in 2. From acute uremia, 1; odema of lungs, 1; tuberculous peritonitis developed four months after operation, 1; heart fail-

ure, 2; drowning, nearly two years after operation, 1, Death occurred within six months of operation in 37 cases, 1 year in 10, 2 years in 3, and 5 years in 2.

CLINICAL MEMORANDA.

TWO CASES OF SYPHILITIC DISEASE OF THE LIVER.[1]

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I BELIEVE that some cases of syphilitic disease of the liver are mistaken for ordinary cirrhosis or for certain other obscure diseases of this organ and that some lives might be saved by appropriate treatment, which otherwise would succumb to the disease. My conclusion in this respect is based upon one or possibly two cases treated for cirrhosis of the liver (or for Bright's disease) by several competent practitioners, the patients having fallen into my hands when death seemed inevitable, and having been rescued by large doses of potassium iodid, and by mercurial injections and inunctions continued over a long period of time. In the case of one of these patients I accidentally discovered a syphilitic history which had been withheld from the former physicians in attendance, and this fact, together with the true picture of cirrhosis which the case presented, rendered completely pardonable the mistaken diagnosis which had been made.

The majority of text-books on practice either omit this subject entirely or dismiss it so briefly that our attention is not sufficiently drawn to it. Loomis, in his "Practical Medicine," devotes two pages to the subject, but under the head of "Gummy Tumor of the Liver," Osler devotes a page and a half to it, and among other things says that "the patient is anemic and passes large quantities of pale urine containing albumin and tube casts." Flint gives the subject a portion of one page, in which he says "it is usually accompanied by some or all of the ordinary symptoms of cirrhosis, and while not common it is one of the most frequent forms of visceral syphilis." Wood dismisses it with one short paragraph, while Strumpell devotes a page and a half to it, and begins his paragraph on treatment with this clause: "Whether we feel certain of syphilitic hepatitis, or merely suspect it, specific treatment should be tried." The cases which I wish to report are the following:

CASE I.—Male, aged forty-five, single; good family history. During the past ten years has been a heavy drinker, taking whisky straight and regularly rather than periodically. He denies all history of venereal trouble other than gonorrhea, but has lead a dissipated sexual life for many years. On September 6, 1893, I found him confined to bed. There was considerable edema of the lower extremities, and the abdomen was distended by fluid. The heart was normal, and analysis of the urine showed neither albumin nor casts. Paracentesis abdominalis had been performed three times previous to this date. On the 17th of September I drew off the fluid from the abdomen, when a careful examination showed the presence of a slightly enlarged liver, but further than this I was not able to determine anything characteristic of cirrhosis.

Thinking I had a typical case of hepatic cirrhosis to deal with, I treated him in accordance with this theory and interdicted the use of alcohol. Finding that he could tolerate large quantities of potassium iodid I prescribed it in dram doses three times daily with small doses of mercurials. During the three months following my first visit I drew off the abdominal fluid six times, removing two gallons each time. During the latter part of this period he wore an elastic abdominal supporter and the fluid accumulated more slowly. He began to gain strength and flesh and to resume his usual avocation, not forgetting in spite of my protests to return to his old convivial habits. He continued to take the iodid regularly and did well, although drinking heavily. The fluid formation ceased entirely and he went on to perfect health for many months.

On November 1, 1894, I was summoned at midnight, not having seen him professionally for nearly a year, and found him suffering from a very severe gastric hemorrhage. He was prostrated several days from this, but in ten days was up again, drinking as before. He has gone on to the present time without any further trouble. The fact of his speedy and complete relief, with no tendency toward a return of his former condition, notwithstanding the continued use of alcohol, and the want of evidence to show an established collateral circulation, has led me to believe this a case of specific disease of the liver. Other than the course of the disease, together with the tolerance of large doses of the iodids and of mercury, there is no *positive* evidence of syphilis.

CASE II.—Male, aged forty-four, father of two healthy children, aged four and seven years. When I first saw him, April 7, 1891, he had been confined to his room for three months, most of this time being unable to leave his bed. His sickness, however, had extended over a period of two years, and was ushered in by colicky pains in the hepatic region and gradual loss of flesh. I found him greatly emaciated, the feet and whole lower extremities edematous, and the abdomen distended by fluid.

There was considerable dyspnea from fluid in the pleural cavities. Examination of the heart and lungs did not reveal anything abnormal. I could not procure urine for examination but elicited the fact that some weeks previously he had been catheterized several times without result, and later on had passed large quantities of urine of such a character that a diagnosis of Bright's disease had been made and treatment had been carried out in this direction for several weeks.

Examination of the hepatic region was unsatisfactory on account of the ascites and hydrothorax. He denied any venereal history. He had been tapped twice within the month previous to my first visit. A specimen of urine was obtained on the following day, but on examination did not reveal the presence of albumin, sugar, or casts. On the 9th, two days after first seeing him, I drew off ten quarts of ascitic fluid, when examination of the hepatic region showed what seem to be a typical hobnailed liver, except that the surface projecting below the ribs seemed

[1] Read before the California State Medical Society, April 1, 1897.

more markedly uneven than in any case I had previously seen. He had been taking a pill which he said contained mercury and this I had him continue, with the addition of potassium iodid in small and increasing doses. A few days later he informed me that about fifteen years before he had had a sore on his penis, which had healed so rapidly, without any further symptoms, that he did not suppose it could possibly be syphilis or could have any connection in any way with his present illness. Soon after I met the physician who had treated him years previously, and he informed me that the patient had had a true chancre at that time.

During the following five months the abdomen was tapped at intervals of from ten days to two weeks, and during this time mercurial inunctions and hypodermic injections of albuminate of mercury were given alternately, and the iodid was increased to about two hundred grains daily. He soon began to gain in strength and flesh, the time between tappings was increased, and an elastic abdominal supporter was applied. After the thirty-fifth tapping, which occurred on June 30, 1892, about fifteen months after the first removal of fluid from the abdomen, he gradually resumed work and is well to-day. He has continued to take the iodids intermittently and is apparently in as good health as ever.

ADDUCTOR VOCAL PARALYSIS.

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PARALYSIS of the intrinsic muscles of the larynx may result from a central lesion situated at the roots of the spinal accessory nerves in the floor of the fourth ventricle; from peripheral lesions, or may be due to changes in the structure of the muscles themselves. The laryngeal muscles may be affected in groups, or more rarely, individually. Probably the most frequent cause of adductor vocal paralysis, especially in females, is hysteria. The following case is reported on account of the absence of hysteria in the patient and for the reason that the etiology was somewhat obscure, the paralysis occurring after pneumonia. The history is as follows:

F. W., female, aged twenty-five years, single, occupation singer and music reader. Was first seen November 3d, 1896. Family history negative. She had had measles when a child; at five years she was said to have had "walking typhoid," and was sick for six months. Subject to headache on excitement for a number of years and also has sick headache when riding in the cars. She is a well-developed, robust, educated woman, and has been strong and healthy since childhood until the early part of December, 1895, at which time when walking with a friend he fell dead. This shock caused a general nervous condition (neurasthenia) of three-weeks' duration, at the end of which period she developed pneumonia, involving the left lung, being very ill for six weeks.

During convalescence from the pulmonary trouble she noticed that her speaking voice was not as strong as before, and was easily fatigued and became husky. On attempting to sing soprano she found it impossible, as she could not produce the notes, and she then placed herself under a physician's care for the vocal paralysis, but without results. At this time her general condition was good, although she was slightly nervous and suffered from a moderate degree of bronchial irritation, this subacute bronchitis being especially annoying at night. At irregular intervals attacks would occur resembling those of croup, and on several occasions it became necessary to call in medical assistance.

When I first saw the patient she was nervous and worried, as her singing was necessary in gaining her livelihood. She complained, in addition to the loss of her singing voice, of a tickling and dryness of the throat, of "catching cold" easily, and of hoarseness, and had a dry, irregular cough. Digestion was not normal, as she sometimes, though rarely, vomited after a full meal. She was moderately constipated, and felt bloated after eating, the tongue being coated, although her appetite was good. Headache was often present, and was most marked in the occipital and temporal regions. She slept well. The heart and lungs, with the exception of the slight bronchitis, were normal; the reflexes were normal, as was menstruation.

On examination of the upper respiratory tract the Schneiderian mucous membrane, especially over the middle and inferior turbinals, was found to be congested, and a moderate degree of turbinal hypertrophy was present. The pharynx was slightly sclerotic, and the lingual tonsil on the left side hypertrophied, while the faucial tonsils and postnasal space were normal. The larynx was plainly visible with the aid of the laryngoscope, the upper two rings of the trachea being easily distinguishable. The epiglottis and mucous membrane of the larynx were normal. The laryngeal and faucial reflexes did not differ from the normal, as the sensibility was not altered. The vocal cords were widely separated, being at an equal distance from the median line on both sides, the arytenoid attachment of the cords being the most characteristic feature, as they were widely apart. Motion of the cords was *nil* on respiration, and only by severe effort could movement be effected on phonation. The cords were normal in color, concave in appearance, and somewhat flabby.

The treatment consisted of deep inhalations of compound tincture of benzoin in albolene, and the interrupted electric current twice a week. The faradic current was applied by placing one electrode over the thyroid cartilage, and the other at some indifferent point. The duration of local treatment was from five to ten minutes at each *séance*. In addition to the local applications, the patient received one-sixtieth of a grain of sulphate of strychnin three times a day, the dose gradually being increased until she received one-tenth of a grain per day. Phosphate of soda as a laxative was directed to be used as indicated. Improvement of the vocal condition was gradual, the lateral arytenoids responding first, until the 8th of December, when she was decidedly better, the only changes from normal being the remaining paralysis of the arytenoid muscle. At this date the singing voice was nearly normal, slight fatigue after much use of the voice

and some inability to reach high notes still being present. On January 5, 1897, the patient had not received local treatment or strychnin for more than two weeks, yet had been able to sing four solos during one day with but little laryngeal fatigue, and said that she never felt better physically. Except for some slight outward rotation and separation of the arytenoid cartilages the larynx was normal.

The total absence of any hysteric element in the case, as corroborated by Dr. Henry P. Boyer, opened up some interesting questions regarding the etiology of the paralysis, and also the location of the diseased tissue or tissues. It is a question whether the lesion was central or peripheral (in the spinal accessory or recurrent laryngeal nerves), or located in the affected muscles themselves. The absence of general or laryngeal evidences of any of the stigmata of hysteria at once eliminated that factor from the etiology, as in hysteria the cords while apparently paralyzed on phonation are freely movable during respiration. Cough is usually present in the hysteric form, but generally absent in true paralysis, although it may be present. As a general rule, it may be said that if adductor vocal paralysis comes on suddenly in a healthy woman and is intermittent, it probably is hysteric in origin. These cases frequently coexist with some disorder of the genital apparatus.

The elimination of disease of the nerve-centers or of the vagus, with the spinal accessory, becomes of importance, as treatment will be influenced greatly by the cause of the laryngeal paralysis. When there is localized disease of the brain or of the nerves already mentioned, other portions of the body besides the larynx are implicated, and the history of the case will generally point to some lesion either of the nerve-tissues directly, or, as is usually the case, pressure symptoms will be present. As the superior laryngeal is generally considered to be the sensory nerve of the larynx, and the inferior or recurrent nerve the one of motion, we could readily eliminate disease of the former as a cause by absence of interference with sensation, the laryngeal sensibility in this patient, as before said, being normal. The recurrent laryngeal nerves may be affected as the result of pressure, as from an enlarged thyroid gland, or by changes in their structure. Usually but one nerve is affected as the result of organic changes, more rarely both are involved. Cases have been observed in which the separate peripheral filaments of the laryngeal nerves have undergone morbid alterations producing paralysis of the different intrinsic muscles of the larynx.

The diagnosis in this case lay between peripheral changes in the inferior laryngeal nerves and alterations in the structure of the muscles involved. Morbid changes of the muscles without involvement of the nerve-fibers has been observed in rheumatism, progressive muscular atrophy and typhoid fever, in some cases the musculature being affected without apparent cause, and giving rise to a so-called idiopathic form. It seems impossible without a microscopic study of the nerves or muscles involved to make an accurate diagnosis, but from the history of the case and a careful study of the larynx, it seems possible that there was some pathologic change in the muscles.

The remaining question, as regards the causal relation of the pneumonia to the vocal paralysis, is rendered difficult of solution, as the former element of shock (caused by the sudden death of a friend as related in the history of the case) must be taken into consideration. This shock was followed by a period of nervous prostration of three-weeks' duration, this in turn preceding the attack of pneumonia, which latter lasted for six weeks. During this time her vocal apparatus was in perfect order, as shown by a normal speaking and singing voice, which did not become affected until late during convalesence from the pneumonia. For this reason, and further as the adductor muscles have in cases reported been affected during convalescence from severe diseases and during catarrhal inflammations, the evidence seems in favor of the paralysis being the direct result of the pulmonary changes, possibly being remotely influenced by the powerful nervous shock which she had received.

This form of laryngeal paralysis occurs most frequently in women, and especially in singers or those making prolonged use of the voice. The subject, in addition to vocal fatigue or partial loss of voice, usually complains of a foreign-body sensation referred to the larynx, and the well-known symptom complex of acute or subacute laryngitis is present. The respiration is normal, but phonation is difficult or impossible. In addition to the local affection, symptoms of anemia or chlorosis are often present. The prognosis is favorable; although the paralysis may have existed for a number of years, cure may be effected, but the condition yields slowly and relapses are very apt to occur.

The treatment must be directed to the larynx, although it is important that the general health be maintained. Stimulating inhalations and the application of the galvanic or faradic current to the larynx, usually intralaryngeal (but in some cases the electricity may be used externally over the region of the larynx), will give the best results. Strychnin is of much value, and unless there are well-marked indications preventing, should be used in increasing doses in all cases.

The Delayed Effects of Frost-Bite.—General A. W. Greely, Chief of the Signal Corps of the United States Army, the Arctic explorer, has recently undergone an operation for the removal of the second finger of his right hand. Both hands of the explorer were frost-bitten in the Arctic regions, and although healing had apparently occurred, caries of the bone recently set in, necessitating the operation. It is said that the condition has been aggravated by the constant handshaking to which he has been subjected.

An Epidemic of Scarlet Fever Due to Milk Supply.—An outbreak of scarlet fever at Plainfield, N. J., has been traced by the Board of Health to the milk suppy furnished by a wholesale dealer. One of the employees, who was ill with scarlet fever, continued to assist in handling the milk. Under the supervision of a health inspector five hundred quarts of milk were seized and dumped into the sewer. The infected employee has been quarantined.

NEW INSTRUMENT.

THE MICROMOTOSCOPE.

By ROBERT L. WATKINS, M.D.,
OF NEW YORK.

FOR more than a year I have been trying in various ways to present living microscopic objects on a screen. After overcoming various obstacles, it was found possible to do this directly by the use of a special arc light in connection with the microscope. The one great obstacle—heat—was still present. This dried the specimens so promptly that the living objects were killed and the method had to be abandoned. The appearance of the vitascope, however, suggested the possibility of applying some such method to the studies I was pursuing. This proved a perfect success. By means of this instrument I discovered that the active motion of living microscopic objects could be readily photographed. By using from 50 to 150 feet of the vitascopic film, and taking a series of impressions in sufficiently rapid succession, I have been able to secure pictures which when passed through a lantern at the same rate of speed will present on a screen all the motions of the objects photographed, where they can be witnessed by an audience of any size. This fact was recently demonstrated to a party of physicians who were especially invited to witness the exhibition.

The value of this discovery cannot be overestimated, not only for the use of the scientist in studying the vital processes of microscopic life, but also as a method of teaching these facts to students and the public.

In my investigations, this method has been applied more especially to the study of blood-corpuscles. The active motion of the leucocyte can thus be readily reproduced. It can be seen to stretch out its finger-like prolongations and then retract them. The nucleus can likewise be seen to vary its shape, to split up into two or more, and sometimes the cell itself to divide into many parts.

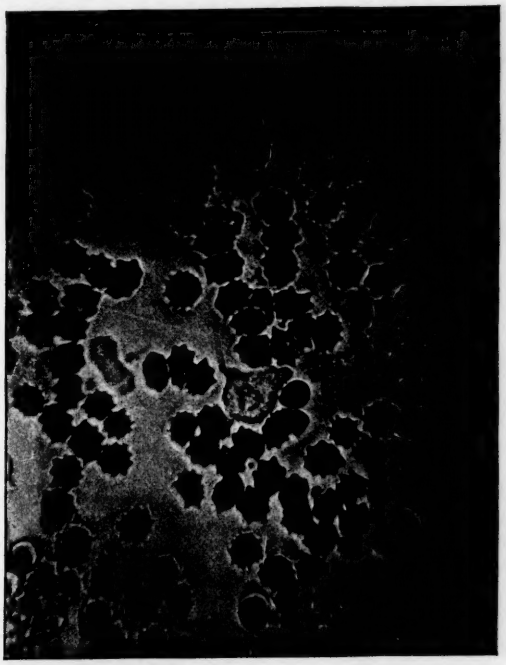
The accurate reproduction of these various vital processes of cell life will be of great assistance in revealing the exact condition of the blood, and help us to get one step nearer the ultimate processes of life. From what I have seen I do not hesitate to say that various cells now known by different names will be found to be only transition forms of the leucocyte. The ameboid motion of the leucocyte continues some times for fully twenty-four hours after the blood is placed on the slide of the microscope.

Another field of usefulness in which the micromotoscope will prove of service is in the study of the life of microbes in stale urine and other fermenting fluids. Indeed, it will be applicable to the study of the motile efforts of all microscopic germs and bacilli.

To secure an appearance of continuous motion these pictures must be taken in rapid succession, allowing an exposure of from $\frac{1}{60}$ to $\frac{1}{25}$ of a second; and to complete a full cycle of motion, as in the expansion and contraction of a leucocyte, requires from 800 to 1500 successive pictures.

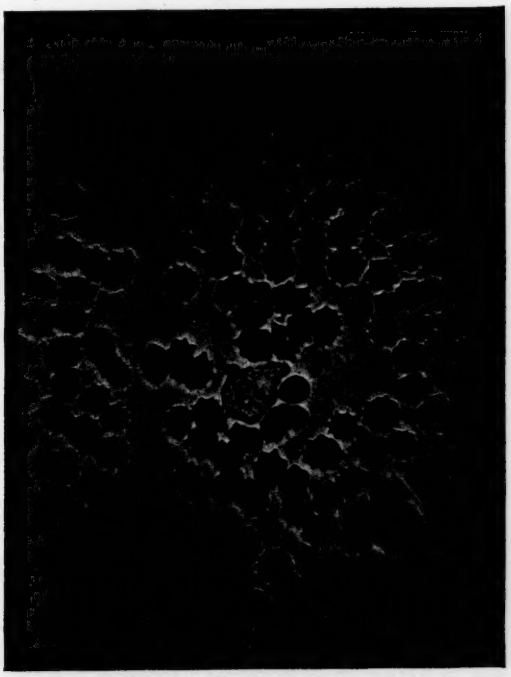
The accompanying photographs present, in a general way, an idea of the successive impressions as they appear in the vitascope.

FIG. 1.



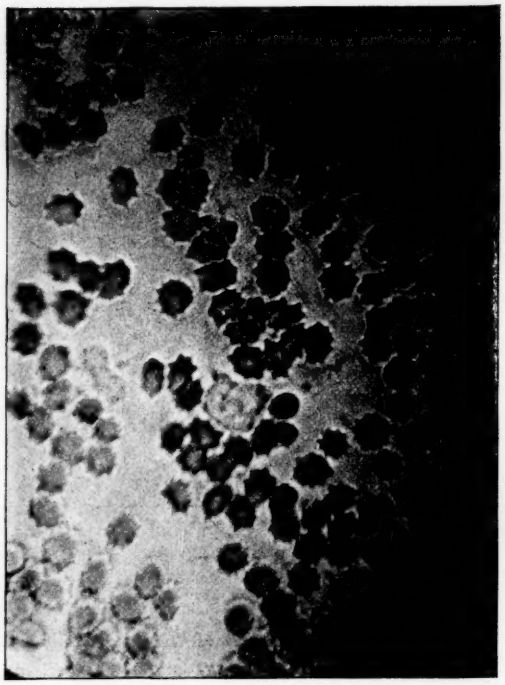
Freshly drawn blood, showing two leucocytes in center. Red cells mostly crenated. 1-12 obj., 2 ocul. Exposure, two seconds.

FIG. 2.



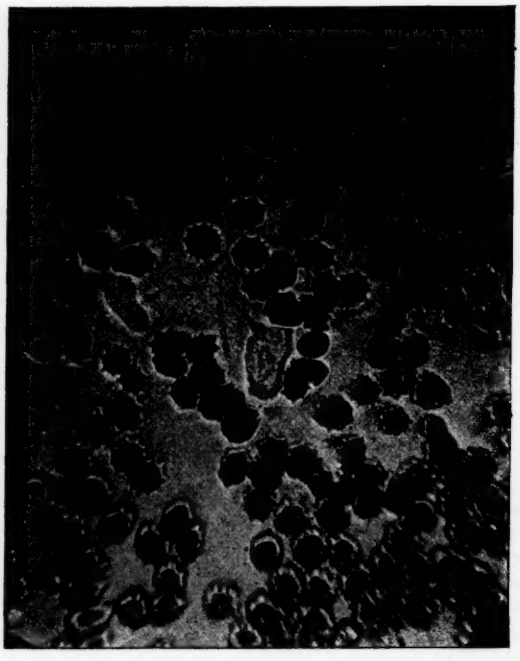
Taken two minutes after Fig. 1. Slight change in shape of large leucocyte. Nucleus also changed slightly in shape.

FIG. 3.



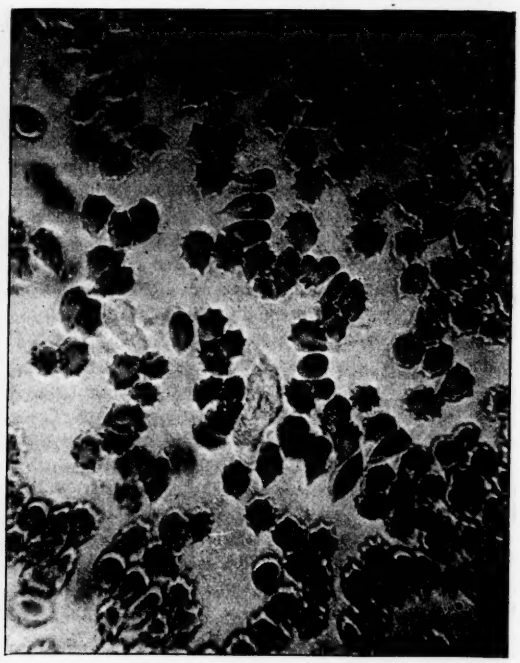
Fifteen minutes after Fig. 2. Leucocyte in center much changed.

FIG. 4.



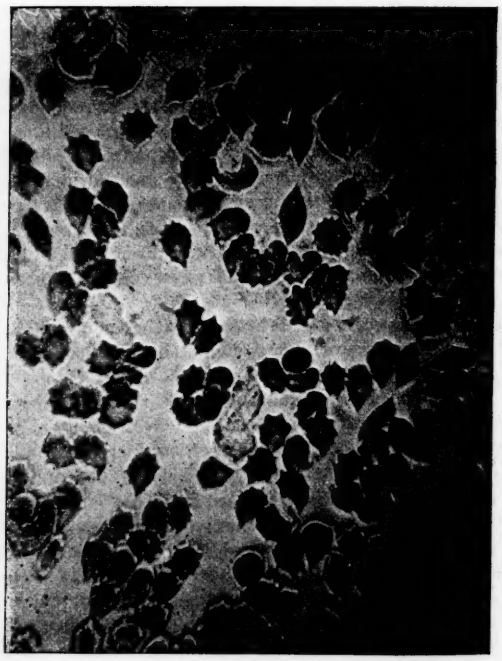
Finger-like prolongation very marked. Nucleus nearly gone. Contour still changing.

FIG. 5.



Elongation of same cell. Nucleus returning. Red cells in motion.

FIG. 6.



Finger prolongation distinct at top of large leucocyte, reaching out for a micrococcus. A division line seen below center of cell. Granules indistinct in various parts of the cell; probably micrococci being digested.

The time between the first and the second photographs is two minutes; the others are fifteen minutes apart, allowing an exposure of from one to two seconds.

The impression made by their rapid passage before the eye when placed in a vitascope gives, as is well understood, the sensation of continuous motion.

THERAPEUTIC NOTES.

For Sick Headache Due to Nervous Causes.—

℞ Atropin sulphate . . . . . gr. ss
Chinoidin . . . . . ʒi.
M. Ft. Pil. No. 9.
Sig. One pill two or three times daily.—*Bartholow.*

For Coexisting Pelvic Congestion, Anemia, and Constipation.—

℞ Magnesia sulphate . . . . ʒi
Iron sulphate, Manganese sulphate } aa . . ʒj
Acid sulphuric dil. . . . . ʒii
Water . . . . . ʒiv.
M. Sig. A tablespoonful in a wineglassful of water before breakfast.

Treatment of Ozena.—MOURET (*La Med. Moderne*, May 8, 1897) found in the crusts from a nose affected with ozena: (1) Large streptococci in long chains and very abundant. (2) Diplococci with and without capsules. (3) Bacilli resembling those of Löffler.

Nasal irrigations, vibratory massage, cauterizations with chlorid of zinc, serotherapy, and electrolysis have all been successful in the hands of different men in the treatment of this disease, but the results have been only temporary. The author believes that the real cause of the disease is not yet known, but that the chief lesion is a trophic disturbance of the mucous membrane, vitiating profoundly the secretion of the glands. The temporary improvement noted after the various sorts of treatment is due to the expulsion of the crusts and the stimulation of the glands. This is best accomplished, however, by the use of vichy water or of bicarbonate of soda both internally and as a lotion, for the alkalies in general favor glandular action.

Massage in Recent Dislocations of the Shoulder.—MASSY (*La Semaine Med.*, May 19, 1897), in order to overcome the arthritis and periarthritis which result from the injury and attempts at reduction of a dislocated shoulder, makes use of massage in the following manner:

Two hours after the arm is in place and bandaged, or put in a sling, the shoulder is stroked lightly on all sides with the palm of the hand. This massage does not exceed five minutes in duration. In three or four hours it is repeated. The following day a somewhat stronger massage is given, consisting of stroking and kneading, and this is repeated after eight hours. On the second day a thorough massage is administered to the whole arm and shoulder-joint, consisting of the four motions of stroking, rubbing, kneading, and beating. This is repeated each day for fifteen minutes at a time, the arm being removed from its sling for the purpose and held by an assistant to prevent its dislocation. All bandages are removed at the end of a week, and the arm is carried in a sling for another week. By these means Massy obtains in uncomplicated dislocations complete cure in three or four weeks.

Rectal Treatment of Bronchiectasis in Children.—A treatment of bronchiectasis in children recommended by MOLLE is described in *La Semaine Medicale*, May 19th, as follows:

℞ Eucalyptol . . . . . 2 parts
Tr. of benzoin . . . . . 10 "
Balsam of copaiba . . . . 16 "
Creosote . . . . . 5 "
Sweet almond oil . . . . 7 "
M.

This mixture is a clear and homogeneous liquid, of which thirty drops may be given in milk as an enema. The mode of administration is important. The child is placed on its side with its knees slightly drawn up, and a soft rubber catheter is passed four inches into the bowel. A small syringe is drawn nearly full of milk and then held in a vertical position while the half dram of medicine is poured into it. The air is expelled, and while the syringe is still held vertically the fluid is forced into the rectum. In this manner not a drop of the medicine is lost. The child experiences a temporary burning sensation to which it rapidly grows accustomed. If this treatment is persisted in for months, the expectoration, cough, and dyspnea all improve, the signs of dilatation, especially around the base, diminish, and the general condition is correspondingly better, even proceeding to a veritable cure.

Recovery After Cyanid of Potassium Poisoning.—WIGLESWORTH records in the *British Medical Journal* of April 24, 1897, a case of poisoning by cyanid of potassium, followed by recovery. A man aged twenty-five, in marked alcoholic intoxication, was seen to drink something from a bottle, throw the bottle away, and then fall. Almost immediately he passed into convulsions, and fifteen minutes later, when seen by the physician, he was unconscious, his face grayish-blue, and the jaws so tightly clamped that one of his teeth was broken in forcing open his mouth for the stomach tube. The eyes were fixed and the pupils dilated, but conjunctival reflex was not entirely absent. Breathing was pectoral and the inspirations jerky, resembling faint hiccoughs. The pulse was small and rapid. Through a tube the stomach was washed out with clean water and a mixture of sulphate of iron, carbonate of potash, and pure ether was passed into it. In about five minutes the patient vomited material which was stained a blue color. A stream of cold water was poured over the back of the neck and spine, and over the cardiac region. The pulse and breathing rapidly improved, but consciousness was not completely regained for four hours. From the fluid in the bottle it was estimated that if the patient drank two teaspoonfuls of it, he took not less than twenty grains of cyanid of potassium. He denied all recollection of having tried to poison himself.

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SATURDAY, JUNE 26, 1897.

THE LIVER OF THE DOG THAT BIT YOU.

IT WAS recently shown by Koch that the bile of animals dying from the cattle plague possesses strong antitoxins; these he proceeded forthwith to use in the treatment of this disease. A writer in the *Münchener Med. Wochenschrift*, May 18, 1897, calls attention to the interesting fact that this method of treatment was recommended in the Talmud some thousands of years ago. Antitoxin treatment is there advocated also, not for the cattle plague, but for the bite of a mad dog, though of course the rabbi who spoke so highly of it knew nothing of its contained antitoxins. The quoted passage is to be found in connection with the laws for the feast of the passover, where, after a general statement that meat is allowed if necessary to save life, an instance is cited to the effect that when bitten by a mad dog a man should eat a portion of the animal's liver.

That there may be no mistake as to the necessity for this most unusual proceeding (for the dog was an unclean animal to a Jew), a very good description of hydrophobia is given. The animal is mad if with open mouth and streaming saliva and drooping ears and tail between his legs he runs from side to side of the street, barking hoarsely. It seems that the fight between the friends and the opponents of the antitoxin treatment waged even in the Talmud days, for other rabbis than the one quoted were not convinced of the virtue of this treatment; while the advocate of it asserts that the liver treatment must be instituted as quickly after the bite as possible in order to be of service.

It would seem that there must have been some good evidence of the value of such a remedy to cause a rabbi to recommend it in spite of the strong prejudices against "defilement." Whether it will be adopted as a practical remedy in our own time remains to be seen. Certain it is that it would be far more convenient to eat a piece of the liver "of the dog that bit you" than to travel to Paris to be injected at the Pasteur Institute; for the dog is of necessity near at hand, and Paris is, alas! far away. There would be, too, a sweetness of revenge in killing the dog and making him at the same time cure the trouble he caused.

PROSTITUTION AS A FACTOR IN PROGRESS.

I CAN conceive of no movement, capable of resulting in greater advantage to the community, in general, than the recent opening of THE MEDICAL NEWS for the frank, fearless, and intelligent discussion of the "Social Evil." I use these adjectives advisedly for the reason that although the question is as old as society itself, and the institution (if antiquity is to count for half as much here as it does in pedigrees and ritual) is entitled to the highest rank and consideration, the manner in which it is discussed is too often either insincere, cowardly, or irrational.

The subject is usually attacked either from the point of view of the self-constituted reformer (whose zeal and positiveness are exceedingly apt to be in direct proportion to his ignorance), or from the extreme legal or religious standpoint. The limitations of the legal mind, due to its idolatry of precedent in dealing with this question are too well known to need comment. As to the theologian, his attitude is most characteristic, generally at one extreme or the other according to his age, either deifying the sexual impulse, as in the unspeakable Phallic rites of antiquity (from which one of our now most sacred modern symbols, is more than suspected of being derived), or denouncing it as wholly sinful and degrading, at best a concession to poor weak human nature which may be tolerated because it

cannot be suppressed. Between the Pauline attitude and the Black Plague of monasticism on the one hand, and the Phallic worship with its bacchanalian rites on the other, there is but little to choose, either as to rationality or actual moral results. And yet one or the other of these conceptions has usually dominated most ecclesiastical contributions to the solution of this question. Celibacy or virginity is still the ideal condition of the saint.

Without any wish to disparage others, it is my firm belief that the only class of men in the community who know the facts of the situation personally, and thoroughly appreciate the impulses and appetites which underlie them, are the members of our own profession. These underlying facts, however, have never been systematically collected, nor have many of us as yet thoroughly thought out the question to its ultimate terms. Hence, the extreme value of such a discussion as this which can hardly fail to produce results of permanence and far-reaching importance. Especially as the discussion can be perfectly frank and outspoken, which the secular press of any class dares not be, for fear of the awful shade of Mrs. Grundy, or the hysterics of the W. C. T. U. In "seconding the motion" for this professional experience-meeting, I beg to submit for approval or disapproval, a few suggestions as to the racial economics of prostitution, which usually, to my mind, are hardly given their proper weight. And perhaps I may be permitted to say, in introduction, that these tentative conclusions are based upon an investigation of the question, begun some years ago, in which after an exhaustive (and exhausting) discovery of the "plentiful lack" of either reliable statistics, or competent, unbiased opinions in the literature of the subject, the chief reliance was placed upon the responses to a large number of letters, addressed to the leading members of the profession in all the chief cities of the Union.

The vital questions of the problem are two in number; first, what class and character of men and women are affected by this institution? and, secondly, in what way are they affected? First, as to the women: The almost unanimous testimony of the replies received, as well as of the figures of Du Chatelet in Paris, is (*a*) that ninety per cent. of prostitutes are drawn from the lowest and most ignorant class of the population; (*b*) that they are led to this life by the desire for luxury, display, and idleness, a purely trade-instinct in fact, and *not* by strong sexual impulses, want, or seduction and desertion; (*c*) that their average life-time after entering this career is 9.5 years; (*d*) that during this period they are practically sterile; (*e*) that very few of them permanently reform, and those who do are extremely infertile. Now as to the men. Unlike the women they are drawn from no single class, condition, or age in the community, but from all alike. They are drawn into the vortex by an instinct it is true, but not a *natural* one—a *perverted* one. It is astonishing how little "passion" there is in the trade on either side. So far from the "hot blood of youth" being chiefly responsible, houses of ill-fame derive two-thirds of their income from married men over forty. In fact the essential "*Leit-motif*" of the practice is not the sexual impulse pure and simple, but the desire to indulge that impulse *and escape* its natural and legitimate consequence, conception. And in this respect women are just as much to blame as men. Many a man is driven to the brothel by his own wife. Three sources chiefly feed the reeking stream of prostitution, two of which are best characterized in the phrases, "can't afford to marry," and "don't want to be bothered with children," and the last and chiefest is limiting unduly the size of families. This is the civilized successor of infanticide, and like it, is the racial "sin against the Holy Ghost, which shall not be forgiven."

How are the supporters of this "institution" affected by it? The general impression is, especially in respect to the women, that they are rapidly killed by venereal disease and sexual excess, but upon gathering reliable facts we find the actual mortality from either of these causes decidedly low. Brain-syphilis and locomotor ataxia among the men, and gonorrheal peritonitis among the women, are almost the only actually fatal forms of venereal disease, and when we come to examine the "bogey" of "sexual excess" we are simply astonished to find how few permanently injurious results of any sort are produced by it. What, then, does shorten the life of the prostitute? My replies were absolutely unanimous upon this point and surprised me greatly. *Every* observer gives *alcohol* the first place, morphin, chloral, and venereal disease come almost to-

gether as bad seconds, suicide is fourth, and irregular hours and exposure next. Thus alcohol is found here, as elsewhere, one of the best friends of civilization. It is worth all the police systems and "missions" ever invented for the elimination of the criminal.

But although this vice has so comparatively little direct effect upon the life chances of its patrons, it affects them all with great force and certainty in another respect. It is a most efficient sterilizer. The prostitute, of course, for obvious reasons, seldom bears children during her "active" life, and usually becomes sterile sooner or later by endometritis or salpingitis, before alcohol or premature old age claim her. She seldom "reforms" (thank Heaven), and if she does, bears few children.

Now as to the man. Supposing he is infected with syphilis, what results? Under any circumstances or any treatment he is absolutely sterile for from two to seven years, either by abstinence or by the infection of whatever woman may be unfortunate enough to be his wife, during that time. Abortion after abortion occurs until viable children are born, but even then ——— ! Tarnier declares that eighty-five per cent. of syphilitic children die before the sixth month, Sturgis seventy-one per cent. As to gonorrhea, the revolution in professional opinion in this regard is simply startling. No longer regarded as a mere trifle, its effects are found to be appallingly widespread. Orchitis on the one hand and pyosalpinx on the other spring up in swarms in its wake like veritable dragon's brood. The despairing cry goes up, "It is doubtful whether gonorrhea is ever cured!" Here, again, justice may move with a leaden foot, but she strikes with an iron hand." That insignificant little infection gonorrhea, "of no more importance than a cold in the head," is found to be followed by a Nemesis of infirmity which is simply appalling.

To sum up then, from the female side of this institution, our conclusion would be that it is concerned principally with the most worthless variety of women, the degenerates or criminals, and the idle, the mercenary, and shameless of the working classes: in short, women whom the community can well afford to spare. That these women, when fairly in its grasp, are practically prevented from propagating their kind during their career, and rapidly destroyed if they remain in it. That very few marry, and those who do so are barren in a high degree; in short, it is an eliminative agency of high value and wonderful efficiency for first rendering sterile and then rapidly destroying the worst specimens of the sex—women whose "reform" and child-bearing would be a curse to the community. No need to spay the prostitute or castrate the criminal: they'll do it themselves if they are just given a little time.

To say that prostitution involves fearful and widespread suffering to innocent women and children would be as true as it is pitiable and harrowing, but "a companion of fools shall be destroyed" is no vengeful threat, but a simple statement of a stern necessary law, of highest value to the race. The only way to check its ravages is to reduce to the lowest possible limit the class upon which it is sure (and ought) to act. And the only agency of any value in this work is education, *education*, EDUCATION! Legislation is useless, "regulation" worse still. Awake society to the fact that the rake does *not* make the best husband, especially awake the "managing mammas," who are for the most part either shamefully ignorant and determined to keep their charges so, or as conscienceless, in these matters, as the slave-dealers of the Soudan.

Above and beyond all we should foster, glorify, deify if necessary, the one instinct in man's bosom which can master the sexual, the highest, the holiest, the strongest of which he is capable,—his love for the one woman who is, or is to be, all the world to him. Once touch this spring and he is safe. Well may all of clearest and deepest vision among us, the poets, never weary of singing its praises. The age of chivalry should be brought back in nobler, truer form. Lust laughs at opposition and exults in danger, but sinks ashamed at the whisper of love. Impress upon every man not his own danger, but that of his wife that is to be, of his children yet unborn. Nay, further, make him to see that the last insult he can offer to the one for whom he would cheerfully lay down his life, is to make, in the burning words of the apostle, her "members the members of a harlot." Do this, and prostitution will disappear from the face of the earth.

WOODS HUTCHINSON, M.D.

ECHOES AND NEWS.

Lord Lister and Professor Max Muller Honored.—Lord Lister and Professor Max Müller have been elected members of the Imperial Academy of Sciences of Vienna.

Diphtheria Antitoxin in Chicago.—The statistics of the Department of Health of Chicago credit diphtheria antitoxin with the saving of no less than 750 lives in that city during the year 1896.

Locusts as a Source of Poisoning.—Several cases of poisoning are reported from various towns in Pennsylvania, the result of eating the eggs and flesh of fowls which had been feeding on seventeen-year locusts.

The Death of Dr. Purshotum Dawda.—Dr. Purshotum Dawda, in charge of the Lohana Plague Hospital, was attacked with plague and died on the 1st instant. He is the fourth medical man who has died of the malady at Bombay.

Famine and Plague in China.—Recent advices from China say that the fatality from famine and plague in that country is appalling. The nature of the plague is not reported. Smallpox is prevalent in Tokio, Japan; also, in the island of Formosa.

The Potent Effects of the Word Hypnotism.—It is reported from New Haven, Conn., that a spiritualistic medium, when told that an expert hypnotist would be present at the next meeting of her society, went into a cataleptic condition, from which she had not recovered at the expiration of three days.

Two New Professorships at Columbia University.—At a meeting of the trustees of Columbia University, held June 8th, two new professors were appointed in the medical department—College of Physicians and Surgeons—namely, Dr. Jas. Ewen, Professor of Clinical Microscopy, and Dr. A. Brayton Ball, Professor of Clinical Medicine.

The Jubilee Number of the "Practitioner."—The *Practitioner* for June appears as a handsomely illustrated jubilee number, in commemoration of Queen Victoria's diamond jubilee, the whole number being devoted to an account of the advances made in medicine, surgery, and the allied sciences during the sixty years of her reign.

Johns Hopkins University Bestows the Degree of M.D. for the First Time.—Commencement exercises at Johns Hopkins University on June 15th were rendered unusually interesting by reason of the fact that for the first time in the history of the institution the degree of M.D. was conferred upon its graduates, fifteen in all. One of the graduates was a woman.

Imprisonment for Expectoration in Street Cars.—News comes from San Francisco, Cal., that W. B. Bradbury, the millionaire, will have to serve the sentence of twenty-four hours' imprisonment in the county jail imposed upon him on his conviction for the second time of expectorating in street cars. This decision has been confirmed by Judge Wallace of the Superior Court.

The Superintendent of a State Insane Asylum Removed.—Dr. George Allen, who was recently appointed superintendent of the Collins' State Homeopathic Hospital, Erie County, N. Y., has been removed by the Board of Managers. Dr. Allen was appointed to the position from the asylum at Middletown. The removal is the result of trouble over a question of appointment.

The Discovery of the Yellow-Fever Germ.—The announcement by Dr. San Arelli that he has found the true germ of the disease has awakened new interest in the bacteriologic origin of that disease. Physicians and scientists from Europe, as well as various parts of South America, are assembling at Montevidio, Uruguay, for the purpose of studying the life history of the germ and discovering an efficient germicide.

The New Harlem Hospital.—The site for the new Harlem Hospital of New York City, to be erected at a cost of $300,000, has been chosen by the Commissioners of Charities. The location selected is the block fronting on the east side of Lenox Avenue, between 135th and 136th Streets, and having a depth of 400 feet. Steps are being taken for the purchase of the property under condemnation proceedings.

The Membership of the Congress of American Physicians and Surgeons.—In our editorial of last week this Congress was described as "a body of some 600 men." This evidently placed the number at altogether too low a figure. The secretary of the Congress, Dr. W. H. Carmault, writes that there are 1157 active members, 41 corresponding members, and 109 honorary members, making a total membership of 1307.

The Generosity of Madame Charcot.—Madame Charcot, the widow of the late Professor Charcot, has relinquished the annual pension of 2000 francs (over $400) which she received from the State in favor of other widows and children of professors or *Agrégés* of the Faculty of Medicine of Paris who have died without leaving provision for their survivors. Madame Charcot has refunded all the money which she has received from the pension since the death of her husband.

A Dinner to Dr. H. A. Didama.—The faculty and the Alumni Association of the College of Medicine of Syracuse University gave an elaborate dinner on June 9th last in honor of Dean Henry D. Didama, M.D., LL.D., on the occasion of his fiftieth anniversary as a practitioner of medicine. After the menu had been satisfactorily discussed, a series of interesting after-dinner speeches were indulged in under the supervision of the toast-master, Dr. Nathan Jacobson of Syracuse.

The Roentgen-Ray Diagnosticates a Broken Neck.—It is reported from Camden, N. J., that a boy nine years old fell from a tree recently with serious consequences. Upon striking the ground, the boy lay limp and unconscious, with blood running from his mouth. Later, paralysis of the lower limbs developed. A diagnosis of dislocation of the spine was made. This was confirmed by the Röntgen-ray, which showed the spine dislocated in three

places. The boy has continued to live for a week since the accident.

Yellow Fever at New York Quarantine.—One death has occurred among the second-class passengers detained in quarantine at New York. After proper detention and thorough disinfection, the remainder of the passengers have been dismissed. The Health Officer, Dr. Doty, regards five days as the safe limit during which passengers subject to infection should be kept under observation. Dr. Doty says: "Epidemics of yellow fever have been prevalent during the last two and a half years in Rio Janeiro, Santos, and Cuba, and in spite of the constant arrival here of ships from these ports, not a single case of yellow fever has entered New York."

A Bill to Provide Expert Witnesses.—It is said that a bill has been introduced in the Minnesota Legislature providing for the appointment of expert witnesses, and that the homeopathic physicians have, with legal advice, prepared a bill to be presented in the New York Legislature. The object of the bill is to provide a list of experts from whom witnesses are to be selected by the Court and paid by the State. The employment of expert witnesses by the counsel of the prosecution or defense has been unfortunate both for the courts and for science. It would certainly be desirable to devise a plan by which the expert witness should be in the position of a judge rather than that of a paid attorney.

New Measures of the New York Board of Health to Guard Against Hydrophobia.—The New York Board of Health has arranged to investigate every case of supposed rabies reported in the city. All policemen are instructed to report every case to the Board of Health. The Health Department ambulances will then take the animal to their laboratory for examination. Cultures will be made and injected into rabbits, guinea pigs, and other animals. This will definitely determine whether hydrophobia is to be feared as the result of any individual dog's bite. People see a dog frothing at the mouth and at once rush to the conclusion that it is mad, forgetting that a dog perspires at the mouth, and that its frothing at the mouth may simply mean that it is hot or excited, or the dog may have fits.

New York Newsboys Not Physical Prodigies.—Forty boys from a newsboys' home in New York City were marched over to the Navy Yard recently to be examined for admission to the navy. They ranged in age from fifteen to eighteen years, with records for physical prowess, the superintendent of the home said, that would entitle them to prominent positions in any fighting detachment. The boys were all jubilant at the prospect of becoming sailors. They were put through the severe physical examination to which applicants are subjected, and with surprising results. Out of the forty applicants thirty-eight were rejected on account of physical defects. The cause of rejection of most of the candidates was the unsoundness of their teeth. One boy's skull was discovered to have been cracked and mended at some period of his life. He was rejected.

The Death of Dr. George F. Edwards.—A most pathetic incident of the commencement exercises at Princeton University last week was the presence there and the death of Dr. George F. Edwards. Dr. Edwards during his college days was a famous character, hail-fellow-well-met with the members of all the classes, possessed of a fund of good nature, witty, loyal, and generous. He was no class man in a strict sense, but belonged to all classes. He was received with open arms at all the *fêtes*. He graduated in the class of '89. Subsequently he entered the medical department of the University of Pennsylvania, where he was graduated with honors. After a brief service in the Presbyterian Hospital in Philadelphia, he went to Johns Hopkins University and began the study of tuberculosis. While there he was infected with the dread disease, the first signs of the malady appearing in him about three years ago. Then began the fight for life. He went to the Pacific slope in quest of health, but the disease had too tenacious a hold upon him, and he realized he had not much longer to live. The pleasantest experiences of his life had been at Princeton College, and his desire was to see once more the scenes of those good times, to spend a few hours in old East College where he had roomed, to witness a struggle on the baseball field with Yale, to attend another Ivy dinner, and then pass away. All these desires were realized, and then the end came in the old room in which he had spent happy years. His final will was made there by which he left a handsome sum to a negro boy, whom he had befriended and educated, and the balance of his fortune, amounting to $150,000, to Princeton University.

CORRESPONDENCE.

OUR PHILADELPHIA LETTER.

[From our Special Correspondent.]

SUMMER WORK IN THE CLINICS—A SCHEME TO AID "BACKWARD STUDENTS" IN PASSING THE STATE BOARD OF MEDICAL EXAMINERS—SECTION ON GENERAL MEDICINE, COLLEGE OF PHYSICIANS OF PHILADELPHIA—A FOUR-YEARS' COURSE AT THE MEDICO-CHIRURGICAL COLLEGE—THE PHILADELPHIA HOSPITAL EXAMINATIONS.

PHILADELPHIA, June 19, 1897.

WITH the closing of the various medical schools and the final meetings, until the fall, of the more important medical societies, it would seem to the casual visitor that the medical world of Philadelphia has settled into a three-months' summer desuetude; but, although surface indications may point to a state of *laisses aller* when contrasted with the work of the great clinics during the winter months, one has only to drop into any of the large hospitals on clinic days to obtain evidence of the fact that, though many of the leaders have exchanged stethoscope and scalpel for rod and oar, much valuable and earnest work is being carried on during these hot months by the younger men of the profession, and in a manner which ensures not a few of them a future high place in their calling.

In many ways these summer clinics offer to the student

advantages which it is obviously impossible to present during the crowded winter terms. Brilliant didactic lectures, and equally brilliant clinical teaching is not to be found, it is true, but, on the other hand, the summer student may freely avail himself of such advantages as close personal contact with both patient and teacher, and an intimate acquaintanceship with the ins and outs of the operating-room and the routine at the bedside, and learn for himself many points which would be missed or unappreciated by a listener on the benches. That this individual instruction is valued by the knowing student of medicine is shown by the good attendance at the regular summer courses of the medical schools, and at the clinics and operations at the various hospitals.

Covert cheating in examinations, whether in a preparatory school, university, or technical school, has always existed to a more or less degree, and will doubtless always continue to exist, except in those institutions in which the students have voluntarily pledged themselves to discountenance "cribbing." Unfortunately, the medical student body is no stranger to this evil, as the facts attest in the wholesale attempts at cheating in the examinations now being held in this city by the State Examining Board for licenses to practise medicine in Pennsylvania. It would seem that an enterprising but unscrupulous exstudent of medicine contracted to furnish those candidates whose mental capacity and standard of honesty happened to fall a bit below the standard with complete "ponies" for the ordeal, at the rate of three dollars for a set covering all the branches of medicine. These "aids to backward students" consisted of small double rolls of paper, on which were printed in very fine type quite an accurate compendium of the different branches, and of a size which permitted their manipulation while held in the palm of the hand.

Many of these "ponies" were sold during the weeks preceding the examination, but the traffic finally became so open and so extensive that, thanks to the efforts of a daily newspaper whose reporter himself purchased one of the incriminating paper rolls, the Examining Board became aware of the matter, and took prompt measures to circumvent the scheme. The result of their vigilance was that a number of candidates were detected using the "ponies" and were unconditionally expelled from the examinations. It is said that there were found on the floor of the examination-room, at the close of the examinations, quite a collection of fragments of "cribs" and other bits of paper indicating that the number of guilty candidates was not small.

The last stated meeting until September next of the Section on General Medicine of the College of Physicians of Philadelphia was held on June 14th. Dr. H. A. Hare made a few remarks on "The Value of the Various Preparations of Digitalis," during the course of which it was explained that of the substances isolated from this drug, digitalin, digitalein, and digitoxin exerted a decidedly tonic influence on the heart, and also at times might be capable of producing spasm of the renal vessels; while digitonin acted as a cardiac, depressant, and renal stimulant. He thought that some of the conflicting reports as to the action of digitalis could be explained by the different preparations used, and by the varying physiologic actions of the same preparations made by the various manufacturers.

Dr. J. C. Wilson read "A Brief Statistical Paper on Enteric Fever in Children, based upon 150 Hospital Cases." This paper comprised fifty cases of enteric fever treated at the Mary J. Drexel Home connected with the German Hospital and one hundred cases from the records of the Pennsylvania Hospital during the last twenty-five years. After logically deducing the important facts connected with enteric fever in childhood, Dr. Wilson showed that the mortality in children under fifteen years of age averaged four per cent., and that in young children the fever was less marked, the duration of the disease was shorter, and that relapses were rare.

Dr. C. W. Burr reported an interesting case of osteomalacia.

It is announced by the Board of Trustees of the Medico-Chirurgical College that, beginning with the coming session of 1897-98, the college course will be lengthened to four years. By the action of this institution all the medical schools of this city now require a compulsory four-years' course for the doctorate, this requirement having already been inaugurated by the Medical Department of the University of Pennsylvania, the Jefferson Medical College, and the Woman's Medical College.

Food for reflection may be found in the results of the examinations recently held for the positions of resident physicians in the Philadelphia Hospital. Of the ninety-five applicants examined, but twenty-one attained the average of seventy per cent. necessary to place them on the eligible list. Some seek to explain the results by the rigidity of the examination, some attribute it to the mental caliber of the applicants, while others place the blame on an indefinite combination of circumstances such as have been known to carry failure to the best of students. But the questions this year were not particularly difficult, the average graduate of this year's classes is certainly as bright as his classmate of a year ago, and the latter reason is too intangible for consideration. The fact, therefore, remains unexplained that only about twenty-two per cent. of the applicants reached a grade of seventy.

ANNOUNCEMENT.

TWELFTH INTERNATIONAL CONGRESS OF MEDICINE.

TO BE HELD UNDER THE HIGH PROTECTION OF HIS MAJESTY, NICHOLAS II., AND THE AUGUST PATRONAGE OF HIS IMPERIAL HIGHNESS, GRAND DUKE SERGE ALEXANDROVITCH, AT MOSCOW, AUGUST 19–26, 1897.

THE Committee of Organization of the Congress has received from the Minister of Transportation nearly 7000 free first-class tickets, which it holds at the disposal of the members of the Congress for their journey to and from Moscow.

These tickets have been offered to the Committee of

Organization by the minister under the following conditions:

1. The Committee of Organization, in sending each ticket to the member of the Congress for whom it is intended, will write upon it his family name, the place from which he will take his departure, and, if the member is a foreigner, the first station on the Russian frontier; also, the route he will follow to reach Moscow and to return.

2. Aside from this, the Committee of Organization will furnish members of the Congress with a certificate indicating that the bearer has paid his assessment and is really a member of the Congress. These certificates shall, on demand of the conductor of a train, be presented to him by the bearers thereof.

3. No ticket will be good for the return trip from Moscow unless it has been furnished by the Committee of Organization with a stamp indicating that "the bearer has attended the International Congress."

4. The names of the members of the Congress may be written, according to the decision of the Committee of Organization, not only in Russian but also in a foreign language.

5. The tickets to Moscow should be presented at the ticket office of the place of departure, or at the first station on the Russian frontier, in order that the stamp of the train may be affixed. On the return trip these tickets are to be presented at the Moscow railway station, where the stamp of the day of departure (old style) will be affixed.

6. The tickets will be good from the 1st to the 13th of September of the present year.

7. Every bearer of a ticket will be allowed to carry free sixteen kilograms of baggage.

8. As soon as the Committee of Organization shall have given notice of the time of arrival at the frontier station of the members of the Congress and their number, the Board of Directors of Railways will make arrangements to permit them to reach Moscow as comfortably and speedily as possible. The same arrangements will be made on their departure from that city.

In accordance with these conditions, in order to have a free ticket, each member of the Congress should inform the Secretary-General of the route which he will follow to and from Moscow.

The Executive Committee has the honor to add that ladies and other persons not having scientific titles, who accompany members of the Congress (Section 3, Rules of the Congress), cannot be designated as being in attendance. They pay no admission fee and do not receive free tickets on the lines of the Russian railways.

Death of Professor Charteris of Glasgow.—Professor Charteris, of the Chair of Materia Medica in Glasgow University, died on June 7th. He was living at Comrie, in Perthshire, having obtained leave for the summer session, in order to recuperate after an attack of influenza. His illness took a decidedly serious change on Sunday, and he died on the following day, soon after the arriva of one of his colleagues.

SOCIETY PROCEEDINGS.

AMERICAN MEDICAL ASSOCIATION.

The Semicentennial Meeting, Held at Philadelphia, June 1, 2, 3, and 4, 1897.

SECTION ON PRACTICE OF MEDICINE.

(Concluded from page 848.)

FOURTH DAY—JUNE 4TH.

The following resolution was unanimously adopted;

"*Resolved*, That Professor Welch and others who took part in the discussion on sero-diagnosis be appointed a committee to draw up a brief statement of the consensus of opinion arrived at through this discussion, this statement to be published in the *Journal* of the Association in connection with the report of the discussion."

Pursuant to the provisions of this resolution the following committee was appointed: Drs. Welch of Baltimore (chairman), Wyatt Johnston of Montreal, R. C. Cabot of Boston, W. H. Bloch of Baltimore, H. M. Biggs of New York, S. S. Kneass, J. H. Musser and John M. Swan of Philadelphia, Mark W. Richardson of Boston, N. S. Davis, Jr., of Chicago, and A. P. Ohlmacher of Cleveland.

The regular session was opened by a discussion on GOUT, inaugurated by DR. WOODS HUTCHINSON of Buffalo. He said that gout is one of the most protean of diseases in its manifestations, a perfect Pandora's box from which every variety of ailment might escape to attack every organ in the body. As manifestations of the lithemic diathesis, and thereby closely allied in their causation to gout, might be mentioned dyspepsia, which is largely of lithemic origin, neuralgia, and hay fever, often due to the presence of uric acid, while two-thirds of the cases of rheumatism can be traced to the same cause as gout. Many inflammations of the bladder have a similar origin, while laryngitis and pharyngitis are also manifestations. Bright's disease is due to the same cause, and the weakening of the arterial coats in this malady is the work of uric acid. The uric-acid diathesis is very closely allied to the vital processes, and though the term is inexact, it is better to stick to a term that is known to be wrong rather than to search around for another that will be no nearer right.

Lithemia is quite common in some animals, while it is rare in others. Those in whom hippuric acid is formed are not subject to lithemia, and among these might be mentioned parrots and domestic fowls. On the contrary, those animals that form uric acid are subject to the lithemic diathesis. Urea is a comparatively harmless substance, while uric acid is very poisonous, and therefore the deposits of bony material in a gouty joint may be regarded as a decidedly conservative process. The inflammation in the joint stimulates the formation of fibrous tissue, and this process is analogous to the building of coral reefs by the coral insect, and to the throwing out of calcareous matter for the formation of a shell by mollusks. It is a defensive process. When there is an abundance of lithemic cells in the system there are fibrous deposits. There is an antagonism between the uric-acid diathesis and tuberculosis.

In the matter of treatment, the essential thing is to keep the patient up to a proper condition, and the way to accomplish this is by exercise, exercise, and more exercise. If a man would observe the direction given by Abernethy to "live on a shilling a day, and earn it," he would never suffer from gout.

DR. CHARLES STOCKTON of Buffalo spoke of the "Gastro-intestinal and Hepatic Relations and Manifestations of Gout." He said that he and Dr. Hutchinson agreed in many particulars, but differed in others. After listening to Dr. Hutchinson he was always inclined to doubt his own experience, but in the present instance he hoped to break down at least one of his contentions. Discussing the causation of gout, the question arises as to whether lithemia is gout, or whether the disease is the result of a toxemia due to disorders of the digestive functions, including the liver. The fact that relief of the gouty symptoms does not follow a treatment directed to the gout itself, but that they disappear upon regulation of the diet, points to the latter hypothesis as the correct one. The fact that outbreaks of gout follow indiscretions of diet in gouty patients is also suggestive. The regulation of the diet should be based upon a study of each individual case, for some persons do well on albuminous diet and badly upon a nitrogenous one, while others improve upon a nitrogenous diet but get worse upon an albuminous one.

DR. CHARLES A. OLIVER of Philadelphia next discussed "Gout as it is Manifested in the Special Senses," confining himself entirely to its effects upon the eye. The symptoms of gout, as seen in the eye, are those of swollen and angry-looking lids, and inflammation of the conjunctiva, but without ulceration. As Dr. Hutchinson had said, the treatment for the general manifestations of gout is exercise, exercise, and more exercise, and the treatment for its manifestations in the eye should be the application of heat, heat, and more heat. Desquamation of the corneal epithelium is frequently noted, and infarctions in the Meibomian glands are not uncommon. The inflammation set up in the eye by the gouty diathesis may be carried back into the ciliary body. The vessels in the back part of the eye may become very much enlarged, and almost macroscopic in size. Entire blindness never results, but there may be central blindness. Inflammation not only exists in the orbit, but may extend back into the optic chiasm itself.

"The Relations of the Alloxur Bodies to Gout, or a Uric-Acid Diathesis, with Demonstration," was discussed by DR. T. B. FLETCHER of Baltimore.

DR. F. S. PEARCE of Philadelphia discussed the question of "The Relation of Uric Acid to Neurasthenia," and came to the following conclusions: (1) That the amount of uric acid present in cases of neurasthenia is less than normal, and that disturbed metabolism is the cause of many of the symptoms; (2) that interference with the exudation of the products of uric acid is the cause of many of the secondary symptoms; (3) that an increase of uric acid may cause an exacerbation of the symptoms; (4) that neurasthenia is not always due to uric acid but to a perverted metabolism and to idiosyncrasy; (5) that uric acid must exert a considerable influence on neurasthenia; (6) that back of all these exciting causes is the predisposing cause of excitable neurons; (7) some of the severe headaches in neurasthenics may be due to the infection of the meninges; the presence of uric acid may also explain the severe occipital pain experienced by some neurasthenics which eye treatment has failed to relieve; (8) that in the treatment of uric-acidemia the use of alkalin mineral waters and of baths is useful.

DR. H. C. WOOD of Philadelphia spoke on "The Treatment of Gout." He was expected, he said, in the course of fifteen minutes to epitomize the wisdom of ages. All the scientific knowledge of gout at the present time amounts to little more than a mass of "mumbling explanations," upon which should be built up a true knowledge of the disease. There are three great manifestations of lithemia—articular rheumatism, rheumatoid arthritis, and podagra, or true gout. He traced the genealogy of a case of gout through four generations, beginning with the great-grandfather, who acquired true podagra in England—a form practically unknown in this country, which passed through four generations, manifesting itself in various ways, until it culminated in the great-grandson in attack after attack of acute rheumatism. It was not the same disease in each person, but it was the same element which had been eluding the grasp of the profession for a hundred years. Until the profession purges itself of the false knowledge of gout which it thinks it possesses, and recognizes the great principle that it is not the gout which should be treated, but the individual with gout, no advance will be made in the treatment and cure of this condition.

Exercise is better than drugs. Colchicum will do good in cases of typical gout, but these do not occur in this country. In order to get results from these drugs it is necessary to give "knock-down doses" of the salicylate of colchicum. In the administration of salicylic acid the profession has long been accustomed to give it in the form of salicylate of sodium, which is not so objectionable as the salicylic acid and soda given separately; but he has had better results from the use of the salicylate of ammonium and salicylate of strontium, giving the ammonium salt in acute cases and the strontium salt in subacute cases. Sometimes he combines them. Baths have been recommended, but he does not see how they can accomplish anything, as "it would be necessary to take a Turkish bath every hour in order to wash away the ancestral vice" in cases in which the disease has endured for several generations.

"The Cardio-vascular and Renal Relations and Manifestations of Gout" were discussed by DR. N. S. DAVIS, JR., of Chicago.

DR. JAMES TYSON of Philadelphia said that gout is a disease to which he has given much thought and in the treatment of which he has had much experience. No disease is so carelessly diagnosed as gout, and one of the symptoms on which a diagnosis of gout is most frequently based is the appearance of Heberton's nodosities, which, in reality, are not a symptom of gout at all but occur more frequently in rheumatoid arthritis. He agreed with Dr. Stockton that uric acid in the urine is not always a

symptom of gout, but when a man is known to have a gouty diathesis it is safe to call all unusual symptoms manifestations of gout. For the treatment of gout he advocates the use of alkalin mineral waters between the attacks. Gout cannot be cured, but its manifestations may cease, and the constant effort of the physician and patient should be directed to keeping them in abeyance. The best waters for this purpose are the foreign Vichy and Baden waters, for there are no true mineral waters in this country. Of course the diet should be attended to. In the medicinal treatment of gout he has obtained the best results from the use of salicylate of soda, but recently he has gone back to the old custom of giving salicylic acid and carbonate of soda. Sometimes he uses the salicylate of strontium.

A paper was read by DR. DAVID RIESMAN of Philadelphia upon

RHEUMATOID ARTHRITIS.

He prefers the term "osteo-deformans," as recommended by Virchow, and regrets the fact that the profession does not know as much about the pathology of rheumatism as it does of diphtheria and other diseases. Next to the pain in the joints, the most striking feature in rheumatoid arthritis is the atrophy of the muscles connected with the affected joint. He divided the disease into (1) Osteo-deformans of the severe type; (2) osteo-deformans of a mild type; and (3) localized deformans. Heberton's nodes are more common in women than in men, and frequently begin to develop at the menopause. He has also known Heberton's nodes to develop shortly after an attack of diphtheria. Three explanations have been given for the condition: (1) That it is due to a complication of rheumatism and gout; (2) that it is of nervous origin; (3) that it results from a specific germ. The treatment should be directed toward preventing contracture of the affected joints by the application of an extension apparatus. He was convinced that some of his cases would have become helpless cripples but for this extension. The medicinal treatment consists in the exhibition of strontium bromid, which, he believes, possesses the power of limiting the disease.

A discussion on ANEMIA followed, opened by a paper by DR. ALFRED STENGEL of Philadelphia, which was read by DR. A. E. TAYLOR of Philadelphia. Anemia is dependent upon something more than a diminution in the quantity of the blood; an alteration in the blood plasma, and in the number and distribution of the corpuscles will be found to exist. This is shown by the experiment of bleeding a dog of one-third of his volume of blood, and examining the remainder at intervals. It will be found that there is a dilution of the remaining blood plasma, and that the specific gravity drops several points. Alterations in the number of red blood-corpuscles is not now considered the important factor it was once held to be. Distribution of the corpuscles in the plasma is of more importance. Anemia is considered to be a deterioration of the blood, with an alteration in its solid constituents. The classification of anemia is difficult, the usual division being into primary and secondary. Pernicious anemia is a secondary disease, and is not considered to be due to any disorder of the hemopoietic system, but is a consequence of syphilis, rickets, chlorosis, and the like. It can be distinguished by the examination of the blood alone, notwithstanding the assertion of the clinicians that this is impossible owing to the fact that other diseases show similar results. In fatal cases of pernicious anemia complete autopsies have failed to show any cause for the condition aside from the fatty degeneration of the heart. He thought that the term "splenic anemia" should be dropped. The treatment by bone marrow has been very unsatisfactory in his experience.

DR. A. E. TAYLOR of Philadelphia spoke of "The Alterations in the Blood, and Methods of Determination." The blood for examination should be obtained by venepuncture, though the blood obtained from a puncture of the finger, or lobe of the ear, will do very well for a blood count. He has not found centrifugation an accurate procedure, and the Fleischl hemometer is also unreliable. A decrease of red blood-corpuscles is not of vital importance, as the blood, under all circumstances, is always able to carry more oxygen than the system needs, so it seems that the hemoglobin must have some other function than to carry oxygen. He had reached the conclusion that the estimation of the specific gravity of the blood, and not of the hemoglobin, is the important factor in blood examinations, and that the mechanical study of the blood is of more value than the microscopic study.

DRS. S. M. HAMILL and D. L. EDSALL of Philadelphia presented a paper on "The Salivary and Gastric Functions as Modified in Anemia."

DR. WM. CAMPBELL POSEY of Philadelphia discussed "Disorders of the Organs of Special Sense in Anemia," confining his remarks to the manifestations of the disease as seen in the eye.

DR. JUDSON DALAND of Philadelphia said he was glad the point had been brought out that blood should be taken from the veins and not from the finger or lobe of the ear. He was also pleased to hear that Dr. Taylor had noticed the inaccuracies of the Fleischl hemometer, for he had found it difficult to come within ten per cent. of a correct count with this instrument. He hoped that some method of overcoming this objection would soon be devised.

DR. MAX EINHORN of New York read

A FURTHER REPORT OF ISOCHYMIA (DILATATION OF THE STOMACH).

He divided his cases into two classes: (1) Those requiring an operation, and (2) those treated by palliative measures. He has had ten patients operated on for benign stricture of the pylorus, and in one case there had been no dilatation of the stomach made out, nor had there been any vomiting. The diagnosis had been made from the fact that part of the food remained behind in the stomach after the normal period of digestion. In the washing water of the stomach there were also black specks, indicating that there was an ulcer of the stomach. Operation was decided upon on account of the stagnation of food, and the ulcer was excised. The patient recovered and began to gain in weight. This case shows that it is not safe to place much importance upon the size of the

stomach. He reported the cases of ten patients with benign stricture of the pylorus, eight of whom recovered and two died. Of the eight reported cured, seven were entirely cured and one was partially cured. In some of the cases of malignant disease the diagnosis had been made from the microscopic examination. If the symptoms do not improve under medical treatment, surgical interference is called for. One of the symptoms of isochymia is retention of food in the stomach, and if this occurs frequently the diagnosis can almost be made from this alone. If this retention of food occurs from stenosis of the pylorus, it should be determined whether this is due to a benign or a malignant cause. In cases of stenosis of the pylorus liquid diet should be ordered, and in serious cases the patient should be nourished by the rectum. His conclusions were that in the majority of cases of isochymia narrowing of the pylorus exists; that the most frequent form of isochymia is dilatation of the stomach; that isochymia produced by malignant tumors should be promptly operated upon; that when not dependent upon a malignant growth an effort should first be made to give relief by palliative measures.

RELATION OF FAT NECROSIS AND THE PANCREAS

was the title of a paper read by DR. H. U. WILLIAMS of Buffalo. He said that in the eighty cases upon which his paper was based he had seldom seen any carcinoma of the pancreas, and peritonitis was not usually present. He described his experiments on dogs and cats by which he had produced an inflammation in the pancreas by tying off the organ and lacerating it with hooks.

DR. JAMES TYSON of Philadelphia made a few remarks upon

THE DIAGNOSIS OF ABDOMINAL EFFUSION AND GROWTHS,

dwelling especially upon the occurrence of tympany in the flanks and presenting models to show how this was to be explained. The occurrence of this phenomenon in several of his patients with abdominal tumors had somewhat mystified his assistants, and had masked the presence of the tumors. In spite of this confusing symptom he had diagnosed the presence of tumors with ascites, and had drawn off seven pints of fluid in two tappings.

THE TREATMENT OF CANCER BY ZINC MERCURIC CATAPHORESIS

was the title of a paper by DR. C. B. MASSEY of Philadelphia. He gave the histories of several patients treated in this way with perfect success, and exhibited a patient whom he had treated several years ago, and who appeared then to be dying from a sarcoma of the roof of the mouth. The growth had recurred, however, and though it was much smaller than when he operated upon it before, he was now going to perform a second operation. The operation was almost painless, was prompt, bloodless, and complete.

DR. J. D. STEELE of Philadelphia reported a

CASE OF PRIMARY RENAL TUBERCULOSIS,

and read a paper with that title.

DR. MATTHEW WOODS of Philadelphia read a paper upon his

EXPERIENCE IN THE TREATMENT OF EPILEPSY ACCORDING TO THE METHOD SUGGESTED BY NIEMEYER.

The closing paper of the session was entitled

MEDICINE AS AN EXACT SCIENCE,

and was read by DR. W. J. K. KLINE of Washington.

A vote of thanks was then extended to the Chairman, Dr. Musser, for his able management of the business of the section, and the meeting was declared adjourned.

SECTION ON OBSTETRICS AND GYNECOLOGY.

(Concluded from page 809.)

THIRD DAY—JUNE 3D.

DR. LEWIS SCHOOLER of Des Moines read a paper on

VAGINAL SECTION IN EXTRA-UTERINE PREGNANCY.

He said that many of us had been taught that the diagnosis of ectopic pregnancy was impossible, and that hence, as there was no diagnosis, there was no treatment. Today we can make a diagnosis with remarkable accuracy. The advantages of the vaginal route are greatest when pus abounds, as infection of the peritoneal cavity follows more certainly if the abdominal route is adopted. The operation is short, and should not be followed by shock or secondary hemorrhage. The bleeding points are also directly under the eye. If the vaginal wall is incised and irrigation and drainage is used, nothing is sacrificed by the operation, whereas abdominal section necessarily implies a sacrifice of ovary and tube. It is urged by some that herniæ are as frequent in the vaginal operation as after the abdominal. This is not true. Healing by first intention in the vaginal operation is not expected, while healing by granulation is encouraged. The strongest argument against the vaginal operation is that it is not a definite operation; that damaged structures are left behind, and that part of the disease is beyond the reach of operation; also, that in pus-cases a cure is not effected and abdominal section is at last the only source of relief. In other cases only a small amount of relief is gained. On the other hand, the abdominal operation is radical, and important organs are too freely sacrificed.

DR. M. PRICE of Philadelphia read a paper, entitled

EXTRA-UTERINE PREGNANCY, WITH REPORT OF CASES.

He exhibited a specimen of ectopic gestation at the fourth month, which he said beautifully illustrated the impropriety of the vaginal operation. In all cases of ruptured pregnancy with hemorrhage and shock the accident invariably occurred before the twelfth week. Even those cases which go to term have ruptured at some time, and all these pass through the hands of the general physician. Many of them perish of hemorrhage, septic peritonitis, or obstruction of the bowel because the physician fails to recognize the conditions. Some recover in spite of lack of treatment. These are classed under the head of hematocele. In his own work and that of Dr. J. Price, covering over 175 cases, he has only seen one variety of ectopic pregnancy, namely, the tubal. He has yet to see the

first case developing in the broad ligaments. The symptoms are almost pathognomonic. There is usually a history of sterility for a number of years, after which the symptoms follow, *viz.*, sick stomach, intense pain, collapse, and hemorrhage after the second month or a slight discharge as in miscarriage, and after the twelfth week a shedding of almost the entire lining of the uterus. In the case he reported, the patient had an intense feeling of impending death. He thinks we can do no better than to follow the teachings of Lawson Tait. In the last few years it is rare to find a case of extra-uterine gestation in which a diagnosis has not been made. How do these cases go to term? In two cases of Dr. J. Price, both children living, they were enclosed in the amniotic sac, and in one case of his own, at the tenth month with a living child, the amniotic sac also existed. In rupture we operate and find everything but the child, because here the sac is ruptured and the fetus has escaped. The cases can only go to term when the sac fails to rupture. In the case mentioned the placental site extended from the corner of the uterus to the diaphragm, covering everything on the left side of the abdomen. To remove this would have been instant death from hemorrhage. As soon as the diagnosis is made, immediate operation is indicated to avoid the daily and hourly increasing danger to the patient. If the placenta is so fixed that we can remove it radically, although with great risk, we should do so. This failing, clean the face of the placenta, wash out the cavity, and close hermetically, trusting to the future.

DR. J. WESLEY BORÉE of Washington, D. C., read a paper on

THE VAGINAL ROUTE IN THE SURGICAL TREATMENT OF RUPTURED TUBAL PREGNANCY.

The best variety for the vaginal operation is where the hemorrhage has not been severe, but where the omentum or bowels have prevented upward growth into the abdominal cavity. In these cases, incision through the vagina back of the cervix is the best method. The difficulty lies in differentiating between cases suitable for vaginal and those suitable for abdominal section. In all cases, therefore, the operator should hold himself in readiness to finish through an abdominal incision. He has done six cases by the vaginal route, all promptly recovering without unpleasant symptoms.

DR. PHILANDER A. HARRIS of Paterson, N. J., presented a paper on

CLOSURE OF THE ABDOMINAL INCISION.

He stated that probably no condition calls for a secondary operation so frequently as hernia. Until within the past few years through-and-through suturing was the common method employed. He believes, as a routine practice, in first suturing the peritoneum by a modified Lembert's suture with fine catgut, then the aponeurosis with chromicized catgut, next the muscle, and finally the skin and superficial fascia. He employs an interrupted stitch for the aponeurosis. For the skin he does not think it matters what we use; personally, he has been accustomed to employ the so-called Halsted subcutaneous suture. By using kangaroo tendon and not the non-absorbable suture, he avoids abscess and pain. As to the particular structure that produces the tensile strain, it is probably mainly the aponeurosis of the transversalis muscle.

DR. FRANKLIN H. MARTIN of Chicago read a paper, entitled

TREATMENT OF RETROVERSION OF THE UTERUS,

in which he gave an amusing satirical review of the discussion of Dr. Clarke's paper. He claimed that no scientific gynecologist should adopt any routine treatment for retrodisplacement, but should vary the treatment to suit the case. The men who condemn Alexander's operation are those who have not done it frequently enough to understand it. No one should express his opinion until he had done at least 100 operations, when he could not condemn it. Hernia never results from Alexander's operation. The operation has but a small range of usefulness, namely, in retroversion without adhesion or surrounding inflammatory conditions. It should not be done in prolapse unless the support is restored by a simultaneous operation. The round ligaments prevent retrodisplacement. He ties the two ligaments together under the skin over the pubes, thus shortening them. Ventrofixation is of service in women who will not become pregnant. He employs Fowler's operation in doing the fixation, in which the urachus is made to support the uterus.

DR. J. J. MAKER of New York presented a paper on

ONE HUNDRED CASES OF ATRESIA AND STENOSIS OF THE VAGINA IN LABOR, THIRTEEN OF WHICH WERE FATAL.

These cases were gathered from the most recent medical literature. The common causes of atresia were transverse membranes or septa, tubular contraction, and transverse bands. He classifies the cases as membranes or septa, stenosis, and bands. There were forty-five contractions in the middle third of the vagina, and some cases in which the site of the atresia was not mentioned, it is probable that ten additional could be placed here in the middle third, making probably about 60 to 65 per cent. of the cases. In 15 of the membranes no opening was found, 31 were firm, 12 cicatricial, 10 cartilaginous. In 20 cases the obstruction measured in thickness 1½ to 12 mm.; in 4 there was stenosis of the entire vagina, and in 1 of the anterior half. As to causation, 42 cases were congenital, 45 post-partum. Operations on the pelvis, forceps, cephalotomy, embryotomy, rough removal of the placenta, tedious labor, were all mentioned as causes. Four cases were traumatic. The post-operative cases came from attempts to close vesicovaginal fistulæ. There were 33 complications, with deaths of seven mothers and twenty children. There were 4 cases of rupture of the uterus; 67 cases were treated by incision, with seven maternal deaths. In 2 cases the thermocautery was used. In 13 cases the septa were ruptured by the advancing head. Embryotomy was done in two cases, with death of both mothers. The fact that between 70 and 80 per cent. of the cases were found in the middle third of the vagina would indicate some increase in the muscular tonus of this portion. The proper course to pursue is to

obliterate the obstruction as soon as discovered during labor, or before labor if possible.

DR. J. H. KELLOGG of Battle Creek, Mich., read a paper, entitled

RATIONAL GYNECOLOGY,

in which he briefly called attention to a class of conditions which does not attract the attention it deserves. He claimed that pelvic disease is not always purely local. The surgeons forget this, and often remove a hypersensitive ovary or perform a hysterectomy because the patient is suffering from general nervous exhaustion. From a study of his case-book he finds that 52 per cent. of the cases showed displacement of the abdominal viscera without associated displacement of the pelvic viscera, and only 6 per cent. showed the reverse condition. Visceral displacement in pelvic cases, therefore, is not a distinct pathologic entity, but is associated generally with displacement of the abdominal viscera as a primary cause. Rational gynecology therefore, includes the treatment and restoration of the abdominal viscera as well. He believes that the backache and other symptoms are due to general visceral prolapse, and not merely to displacement of the pelvic organs. Retrodisplacement is favored by lack of obliquity of the pelvis.

DR. J. F. BALDWIN of Columbus read a paper on

THE TECHNIC OF ABDOMINAL HYSTERECTOMY,

in which he said that the abdomen is opened in the usual way by as free an incision as is necessary. The adhesions are freed, the uterus is drawn up into the incision, and the most accessible broad ligament drawn out and the ovary cut loose after the application of a clamp. The other ligament is treated in the same way. Clamps are then applied below, and anterior and posterior flaps of peritoneum made, the broad ligaments are then separated, and the uterine arteries found and ligated. A V-shaped division of the uterine body is then made. In suitable cases he ligates on one side and then removes the mass according to Kelly's method. The patient is then placed in the Trendelenburg posture, and the uterine arteries found, drawn out, and ligated. The round ligaments are then caught with forceps and the clamp removed from the broad ligament. The ovarian arteries are then drawn out and ligated. Gauze is passed down through the cervix into the vagina. He closes the peritoneal flaps over the cervix with kangaroo tendon and a running suture, thereby preventing raw surfaces, to which adhesions may occur. The operation is short—forty minutes—there is almost no hemorrhage and shock, and convalescence is short also. The ligature placed around the uterine artery is outside the uterine tissue. The danger of intestinal adhesions is *nil*. The use of clamps on the broad ligament saves time.

DR. MARCY of Boston was pleased with the introduction of gauze from above downward. He would suggest a continuous Lambert suture in closing the peritoneal surfaces. This becomes buried when traction is made upon it.

DR. HENRY P. NEWMAN of Chicago read a paper on

THE TREATMENT OF INEVITABLE ABORTION.

He stated that 85 to 90 per cent. of married women abort at least once. The dangers are hemorrhage and sepsis, subinvolution of the uterus, uterine displacement, salpingitis, and ovaritis. He is opposed to the expectant plan of treatment. We have here a gynecologic and not an obstetric condition, hence he prefers to empty the uterus at once. His paper refers to expulsion of the fetus during the first three months. Kliehrssen records 150 cases of abortion treated by the active method, with only two deaths. Newman observes the same precaution as in doing an abdominal section.

DR. CARTLEDGE of Louisville presented a large ovarian cyst of thirteen-years' growth, taken from a woman thirty-seven years of age. The circumference of the woman at the umbilicus was 79 inches, the distance from the ensiform to the pubes was 49 inches. Twenty gallons of fluid were removed from the cyst before the anesthetic was given, and afterward ten gallons more were taken away. There were terrific adhesions, and the operation took two hours. The woman survived the operation until the sixth day, when internal obstruction developed, and she died the evening of the same day. The water removed weighed 240 pounds, the sac weighed 5 pounds more, making a total of 245 pounds, 50 pounds larger than any other reported cyst.

FOURTH DAY—JUNE 4TH.

DR. ANNA M. FULLERTON of Philadelphia presented a paper, entitled

STUDIES IN GYNECOLOGY FROM THE SERVICE OF THE WOMAN'S HOSPITAL OF PHILADELPHIA.

She believes that in the future we must pay more attention to the constructive part of gynecology, the making of healthy women. The weakened tissues of young girls due to poor hygiene, predispose to menstrual and uterine disease. She does not believe that such cases require little local treatment, which, under the use of cocain is quite easy on account of the relaxed tissue. The tonicity of the uterine supports and muscle, and improvement of the blood are the indications in the treatment. All of the clothing should be loosened. If too tight, it produces uterine displacement with all its attendant ills. Abdominal breathing should be practised, and the judicious use of the bicycle to stimulate the abdominal muscles. In cases of prolapse of the uterus the patient herself may introduce a sterile silk sponge into the vagina, after anointing it with boroglycerid, and push it up by means of a glass rod into the posterior cul-de-sac. The condition of puerperal subinvolution predisposes to inflammation and structural change. Bicycle-riding in pregnancy in two cases resulted in one in an extremely easy labor, and a beneficial result in the other patient, who is still pregnant. The diet during pregnancy will largely influence the process of lactation.

DR. J. MILTON DUFF of Pittsburg read a paper on

SOME REFLEX DISTURBANCES DUE TO PELVIC DISEASE, WITH REPORT OF CASES,

which was fully discussed. Dr. Kelly especially emphasizing the relation existing between the minor pelvic affections, especially retrodisplacement. and neurasthenia.

DR. ALBERT H. TUTTLE of Cambridge read a paper on the

INJURIES OF PARTURITION, THE TIME, METHOD, AND REASON FOR REPAIR,

and DR. J. M. EMMERT of Atlantic City presented a paper on

FIBROID TUMORS OF THE VAGINA, WITH REPORT OF CASE.

The remaining papers on the program were read by title.

REVIEWS.

TRANSACTIONS OF THE AMERIGAN OPHTHALMOLOGICAL SOCIETY. Vol. VII. Part III. Thirty-second Annual Meeting. Hartford: Published by the Society, 1897.

THE amount of original scientific work presented at the last meeting of this Society is a convincing proof, were any needed, of the progressive spirit which animates the ophthalmologists of our country. To all interested in this specialty, as well as to many workers in the wider field of general medicine, this volume of the transactions will prove a store-house of valuable information. Where so much is offered, a choice is very difficult and a review of the important contributions would contain most of the forty or more papers mentioned in the table of contents. Among those of special interest are: "The Course and Prognosis of Orbital Tumors as Influenced by Surgical Operations for Their Removal," by Dr. C. S. Bull; "Ophthalmic Conditions in Case of Cerebellar Tumor," by Dr. C. A. Oliver; an able contribution on the "Use of Mercury in Traumatic irido-Choroiditis," by Drs. C. W. Kollock and S. Theobald's practical treatise on "Sterilization of Cataract Instruments." Successful application of Röntgen's discovery to ophthalmic diagnosis is reported in the cases of Drs. C. H. Williams and C. F. Clark.

A GUIDE TO THE CLINICAL EXAMINATION OF THE BLOOD FOR DIAGNOSTIC PURPOSES. By RICHARD C. CABOT, M.D. New York: William Wood & Co., 1897.

THE clinical examination of the blood has become a routine of such imperative necessity as a diagnostic aid and confirmer, that it is quite remarkable that no text-book on the subject has previously appeared in the English language. The present one, with some exceptions presently to be noted, covers the field very well and includes within its pages most of what is regarded as generally accepted truth.

The author, in the introduction, speaks of the scope and value of blood examinations. This is followed by a description of the methods of making such examinations, of the apparatus employed, and the different stains. The physiology and the general pathology of the blood are next considered, and the remainder of the book—more than half—is devoted to the special pathology of the blood. In these chapters, the variations in the constituents of this circulating fluid are discussed in detail.

Within the scope of this review it is impossible to do more than point out a few misconceptions and to utter a note of warning. The misleading results and misinterpretations after examination of the blood, which physicians acquire and are led into are due, as a rule, to imperfect training, and it is barely possible that a book like the one under consideration may serve only to increase general disrespect for minute clinical methods. Yet if the book is read and studied as it should be it may be the means of fostering a spirit of accuracy in clinical diagnosis among those who have considered themselves incompetent to follow the rapidly increasing methods of microscopic aids in diagnosis.

The author, unmindful of Ehrlich's admonition that the evaporation from the hand may change the granules in the white cells, recommends the holding of the cover-glass in the hand rather than in a forceps (p. 7). The figures on page 19 attributed to Dr. Franklin White, represent devices published by Ehrlich. No mention is made of fixing blood to be examined by the formalin method so much praised by recent observers. The valuable paper of Kraus of Graz, on the determination of the alkalinity of the blood is not referred to.

These are but minor criticisms, it is true, and it is not intended that they shall detract from the praise of the book; for it is a well-conceived, well-written, almost complete hand-book and deserves a wide circulation.

A large bibliography is appended to the work. The illustrations are fair only, most of the lithographic plates not being comparable to the originals from which they were borrowed. The printing and the binding are good.

A PICTORIAL ATLAS OF SKIN DISEASES AND SYPHILITIC AFFECTIONS. From models in the Museum of the Saint Louis Hospital, Paris. With text by BESNIER, FOURNIER, and others. Price $3.00 per part. Philadelphia: W. B. Saunders, 1897.

THE plates of this atlas are photolithochromes and the accuracy of their coloring is admirable. It is indeed remarkable when it is remembered that these illustrations are not taken from life, but from the models in the well-known collection of the Saint Louis Hospital in Paris. The explanatory text accompanying the plates contains a wood-cut copy of the plate with numbered lines pointing to the various lesions of which a detailed description is given. This serves to make the description extremely clear and instructive to the reader. A concise history of the case is usually given in the text, and the etiology, pathology, and treatment of the disease is briefly discussed. To the specialist in dermatology the text of this work will undoubtedly prove as attractive as the plates, and the views and opinions presented by the authors, as well as by the English editor, will be read with pleasure and profit.

The claim made by the publisher that the illustrations will chiefly represent typical cases of common diseases of the skin is hardly borne out in most of the parts. A glance at the captions appended to the plates will establish the fact that about one-half of the cases might be justly classed as rare or uncommon forms of cutaneous disease.

INDEX.

MEDICAL NEWS.

A WEEKLY MEDICAL JOURNAL.

Vol. LXX. No. 26. Whole No. 1276. NEW YORK, SATURDAY, JUNE 26, 1897. Per Annum, $4.00. Per Copy, 10 Cents.

Contents.

FOOD AND FUNCTIONS.

The infant is designed to receive as its sole food a fluid which the body of the mother secretes in the form of milk.

Milk proves, from a physiological and chemical standpoint, to be unlike any other food, and science explains why we cannot expect the cruder forms of food, starches, sugars, fats and coagulable albumens, to be competent for the nourishment of the nursling. Milk is described as "cell material liquefied."

A comparative study of cows' and human milk reveals plainly that these two milks have definite differences in character, in digestibility and composition, exactly in accordance with the functions of the young animals for whose nutrition they are destined.

"The normal states of the infant are sleeping and feeding."

"At a month old a calf should have a run in a grass pasture, a quarter of an acre or so. In winter some fresh, sweet, early-cut clover or hay should be given after the first month."

The richly nitrogenous, caseinous cows' milk is exactly adapted to the digestive functions of the young calf.

Human milk is the most soluble and digestible of all milks—a food marvelously adapted to the digestive functions and to the nutrition of the nursing infant, with its highly developed nervous organization, and its feeble physical and digestive power.

The human infant is designed to depend entirely upon its mother's milk for, at least, the first nine months of its existence.

Common experience and science both plainly teach us that cows' milk is inherently unfit for the nutrition of the human infant.

The fatal failure of empiricism in artificial feeding is plainly due to feeding infants with food more fitted, but not even fit for the calf—cows' milk with excessive degrees of dilution, skimmed milk, sugar milk, starch milk, powder milk.

Science is imperative and clear in its dictates in infant feeding. Nowhere can chemistry and physiology be more practically applied than in infant feeding.

Fairchild's *PEPTOGENIC MILK POWDER* makes science possible and easy in infant feeding. It makes cows' milk identical with normal mothers' milk—in digestibility, relative proportion and total content of human milk constituents.

BUFFALO LITHIA WATER

Disintegrates, Breaks Down and Eliminates Stone in the Kidney or Bladder, Both Uric Acid and Phosphatic Formations.

Analysis and Report of **Dr. R. OGDEN DOREMUS,** Professor of Chemistry in the Bellevue Hospital Medical College of New York.

Chemical Laboratory, Bellevue Hospital Medical College, East 26th Street, New York. New York, Dec. 3, 1896.

E. C. LAIRD, M.D., *Resident Physician,*
Buffalo Lithia Springs, Va.

DEAR DOCTOR:—I have received the five collections of **disintegrated Calculi,** each collection containing a number of **fragments,** and also the three boxes, each containing a single calculus, mentioned in your letter as discharged by different patients under treatment by the

BUFFALO LITHIA WATER

Spring No. 2. I have analyzed and photographed parts of each specimen, and designated them alphabetically.

One of the Calculi from the collection marked "A" was marked $^3/_{16}$ of an inch in diameter, of an orange color, and one section exhibited a nucleus, surrounded by nine concentric layers of a crystalline structure, as shown in the accompanying photograph, marked "A," magnified 12 diameters.

On chemical analysis it was found to consist of **Uric Acid** (colored by organic substances from the urine), with traces of Ammonium Urate and Calcium Oxalate.

A **fragment** of a **broken down calculus** from the same collection was found to consist of **Uric Acid.**

(Calculi "A" magnified 12 diameters.)

One of the **fragments,** taken at random from the collection marked "B," which was **still more disintegrated** than the preceding one, proved on analysis to be composed chiefly of **Uric Acid** and Ammonium Urate, with a trace of Calcium Oxalate. See accompanying photograph "B," magnified 12 diameters.

(Calculi "B" magnified 12 diameters.)

The contents of the boxes marked "C" consisted chiefly of whitish crystalline materials.

On microscopic examination they exhibited well defined prismatic crystals, characteristic of **"Triple Phosphates,"** as shown in the accompanying photograph, "C," magnified 20 diameters.

On chemical analysis they were found to consist of Magnesium and Ammonium Phosphate (Triple Phosphate), Calcium Phosphate, Calcium Carbonate—a trace, Sodium and Potassium Salts in traces, Uric Acid and Urates none, Calcium Oxalate none, Organic Debris in considerable quantity, and matters foreign to Calculi.

(Collection "C" magnified 20 diameters.)

Yours respectfully,
R. OGDEN DOREMUS.

[A portion of the report is omitted for lack of space.]

BUFFALO LITHIA WATER

In cases of One Dozen Half-Gallon Bottles, $5.00. F.O.B. Here.

Sold by All First-Class Druggists.

THOS. F. GOODE, Proprietor, Buffalo Lithia Springs, Va.